Phases beyond Clauses[*]

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1. Introduction

The theory of phases has focused on clausal structure, which can be considered to be an extension of VP, hence the standard assumption that CP and *v*P count as phases. Other major phrases have attracted much less attention in the literature on phases, with NP getting more attention than AP and PP. This paper focuses on NP, in particular, the phasal approach to the locality of movement as applied to the extraction out of NPs. It will be shown that the diagnostics employed in this paper to determine the phasal status of NPs also have consequences for APs and PPs, which have rarely been discussed in the literature in terms of phases. The central diagnostic concerns left-branch extraction, which we will see can be used as a powerful tool for determining the phasal status of NPs as well as APs and PPs, the main testing ground being Serbo-Croatian. The discussion in the paper has consequences for a number of additional phenomena, especially the internal structure of NPs (and PPs) and the distinction between structural and inherent case. Regarding the latter, it will be shown that inherent case is less constrained than structural case with respect to a number of movement phenomena, which I will argue indicates that the two should be treated in a different manner structurally.

The overall picture regarding phasehood we will end up with is that all major phrases (NP, AP, PP, VP) project phases, with the exact phasal projection depending on the amount of functional structure above the major phrases under the assumption that the highest projection in the extended projection of a major phrase counts as a phase.[1] This is in line with the dynamic approach to phases, where the phasal status of X can be affected by the syntactic context in which X is found. The centerpiece of the discussion in this respect is the traditional Noun Phrase (TNP).[2] It is argued that there is crosslinguistic variation regarding what counts as a phase in the TNP which tracks independent crosslinguistic variation regarding the categorial status of the TNP assumed under the DP/NP parameter, which posits a difference in the structure of the TNP in languages with and languages without articles, the latter lacking the DP layer. In particular, it is argued that DP is a phase in DP languages, and NP is a phase in NP languages. However, in a few cases where an additional phrase is projected above NP in NP languages, this additional phrase becomes a phase

[1] The same conclusion is reached in BOŠKOVIĆ (in press b) based on different considerations, including ellipsis. In fact, this paper can be considered to be complementary to BOŠKOVIĆ (in press b), considerably strengthening the case made in that work through an examination of a number of additional contexts and phenomena that were not discussed in BOŠKOVIĆ (in press b), in particular left-branch extraction, adjunct extraction, and inherent case environments, also resolving several issues that were left unresolved in BOŠKOVIĆ (in press b).

[2] I will use the term TNP to refer to noun phrases without committing myself to their categorial status (NP or DP).

instead of the NP. The real source of the parametric variation in question then concerns the amount of structure projected in a TNP, not phasehood, since the highest projection in a TNP always counts as a phase (see also BOŠKOVIĆ in press b).

Since the difference in the categorial status of TNPs posited under the DP/NP parameter directly affects extraction out of TNPs, which in turn sheds light on the phasal status of TNPs, in section 2 I will briefly sum up several issues regarding the DP/NP parameter. In section 3, I will use left-branch extraction and related constructions as the diagnostic tool for determining the phasal status of TNPs. In section 4 these diagnostics will be applied to PPs and APs. Section 5 is the conclusion.

2. The NP/DP parameter

It is standardly assumed that languages without articles have a null D. Thus, the difference between English (1) and Serbo-Croatian (SC) (2) is standardly assumed to be PF-based, the only difference between English and SC being that D is phonologically null in SC.

(1)   The stone broke the window.

(2)   Kamen je   razbio   prozor.

         stone   is   broken   window

In BOŠKOVIĆ (2008) I argue against this position. I argue there is a fundamental structural difference in the TNP of English and article-less languages like SC based on a number of wide-ranging syntactic and semantic phenomena that correlate with the presence or absence of articles; they are given in (3) below.[3] A number of additional phenomena are noted in BOŠKOVIĆ (in press a), most of which are given in (4); for additional generalizations see BOŠKOVIĆ (2009a, in press a), BOECKX (2003), CHENG (in preparation), HERDAN (2008), MARELJ (2008), MIGDALSKI (2010), DESPIĆ (2011, in press), and RUNIĆ (2011), among others.

(3)   **Generalizations** (see Bošković 2008 and references therein)

a. Only languages without articles may allow left-branch extraction as in (6).

b. Only languages without articles may allow adjunct extraction from TNPs as in (14).

c. Only languages without articles may allow scrambling.

d. Multiple-wh fronting languages without articles do not show superiority effects.

e. Only languages with articles may allow clitic doubling.

f. Languages without articles do not allow transitive nominals with two genitives.

g. Head-internal relatives display island sensitivity in languages without articles, but not in languages with articles.

h. Polysynthetic languages do not have articles.

i. Only languages with articles allow the majority reading of MOST.

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[3]   See BOŠKOVIĆ (2008, in press a) for detailed discussion, including illustrations of the generalizations in (3)–(4) and the precise definitions of the phenomena referred to in these generalizations (e.g., what is meant by scrambling in (3c) is long-distance scrambling out of finite clauses of the kind found in Japanese). Notice also that what matters for these generalizations is the presence of a definite article in a language since Slovenian, a language which has indefinite but not definite article, patterns with article-less languages regarding these generalizations, see BOŠKOVIĆ (2009b).

j. Article-less languages disallow negative raising (i.e., strict clause-mate NPI licensing under negative raising); those with articles allow it.

(4) **Additional generalizations** (see BOŠKOVIĆ in press a and references therein)

a. Negative constituents must be marked for focus in article-less languages.

b. The negative concord reading may be absent with multiple complex negative constituents only in negative concord languages with articles.

c. Radical pro-drop is possible only in article-less languages.

d. Number morphology may not be obligatory only in TNPs of article-less languages.

e. Elements undergoing focus movement are subject to a verb adjacency requirement only in languages with articles.

f. Possessors may induce an exhaustivity presupposition only in languages with articles.

g. The sequence of Tense phenomenon is found only in languages with articles.

h. Second position clitic systems are found only in languages without articles.

These generalizations, which are syntactic and semantic in nature, indicate that there is a fundamental difference in the TNP of languages with articles and article-less languages that cannot be reduced to phonology (overt vs. null articles). Furthermore, BOŠKOVIĆ (2008, in press a) and BOŠKOVIĆ & GAJEWSKI (2011) show that the generalizations can be deduced (see section 3 for the deductions of (3a,b) if languages that lack articles lack DP altogether. (For other 'no DP' analyses of at least some such languages, see FUKUI 1986, 1988, CORVER 1992, ZLATIĆ 1997, CHIERCHIA 1998, CHENG & SYBESMA 1999, WILLIM 2000, BAKER 2003, DESPIĆ 2011, and TAKAHASHI 2011, among others.) Moreover, the NP/DP analysis provides a uniform account of these differences, where a single difference between the two language types is responsible for all of them (this will be illustrated for two generalizations from (3) in section 3).

In what follows I will therefore take the NP/DP parameter for granted. Two generalizations regarding this parameter that are of direct interest to us here since they will be used as a tool for probing the phasal status of TNPs are (3a,b). I turn to them in the next two sections. I will first provide some empirical motivation for the generalizations. I will discuss their relevance for the phasal status of TNPs in section 3 after a brief discussion of the structural position of the relevant elements in section 2.3.

2.1 Left-branch extraction

It is well-known that languages differ in whether or not they allow left-branch extraction (LBE).

(5)   *Expensive$_i$ he saw [t$_i$ cars]

(6)   Skupa$_i$ je vidio [t$_i$ kola]   (SC)

      expensive   is seen   car

URIAGEREKA (1988), CORVER (1992), and BOŠKOVIĆ (2005b) observe that there is a correlation between articles and the availability of LBE and establish the generalization in (7).[4]

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[4]   Like most of (3)–(4), (7) is a one-way generalization; it does not say LBE will be allowed in all article-less languages. There are other requirements on AP LBE, in addition to the lack of articles. One of them is agreement between the adjective and the noun (see BOŠKOVIĆ 2005a, 2009d, 2012a). The lack of such agreement is the reason why

(7)   Only languages without articles may allow LBE examples like (6).

To illustrate, Bulgarian and Macedonian, which are the only two Slavic languages with articles, differ from other Slavic languages (e.g., SC, Russian, Polish, Czech, Ukrainian, and Slovenian) in that they disallow LBE, as illustrated for Macedonian in (8). Also relevant is Romance: Latin, which did not have articles, differs from Modern Romance languages, which have articles, in that it had LBE. Mohawk, Southern Tiwa and Gunwinjguan languages (see BAKER 1996) as well as Hindi, Bangla, Angika, and Magahi also allow LBE and lack articles.[5]

(8)   *Novata$_i$ (ja) prodade Petko [t$_i$ kola].   (Macedonian)

        new   it sold   Petko   car

A particularly strong argument is provided by Finnish. As discussed in LAURY (1997), colloquial Finnish has developed an article. Significantly, FRANKS (2007) reports that LBE (i.e., (9)) is allowed only in literary Finnish, which does not have articles.

(9)   Punaisen   ostin   auton.   (literary Finnish)
        red$_{ACC}$ buy$_{PST.1SG}$ car$_{ACC}$

(10) ?*Punaisen osti   (sen)   auton.   (spoken Finnish)
        red$_{ACC}$ buy$_{PST.1SG}$ the$_{ACC}$ car$_{ACC}$

Also relevant is Ancient Greek, which underwent a change from an article-less to an article language. Thus, while Homeric Greek was an article-less language, Koine Greek was a full-blown article language. TAYLOR (1990) investigated what she refers to as split wh-phrases (involving extraction of just the wh-word out of a wh-phrase) and split NPs in Ancient Greek. While not all split wh-phrases/NPs involve LBE, many of them do, which makes Taylor's results very significant in the current context. Taylor's corpus contains 68% of split wh-phrases and 25% of split NPs for Homeric Greek, which was an article-less language, while the corpus for Koine Greek, an article language, contains only 15% of split wh-phrases and 0% split NPs. This quite strongly confirms the LBE generalization.

2.2 Adjunct extraction from TNPs

Consider now extraction of adjuncts from TNPs, which is, as is well-known, disallowed in English (HUANG 1982, CHOMSKY 1986a, STOWELL 1989, LASNIK & SAITO 1992, CULICOVER & ROCHEMONT 1992).

(11) Peter met [$_{NP}$ girls from this city]

(12) *From which city$_i$ did Peter meet [$_{NP}$ girls t$_i$]?

Noting that SC and Russian allow such extraction while Bulgarian does not, STJEPANOVIĆ (1998) argues for (13). As further illustration, Slovenian, Polish, Czech, Ukrainian, Hindi, Bangla, Angika,

LBE is disallowed in e.g., Chinese.

[5]   I focus here on AP LBE, ignoring possessor extraction. The reason for this is that several accounts of the ban on AP LBE in DP languages leave a loophole for possessor extraction to occur in some DP languages (see BOŠKOVIĆ 2005b:4). Thus, Hungarian, which has articles, allows possessor extraction, but disallows AP LBE, which is what is important for us (see, however, DEN DIKKEN 1999, who suggests Hungarian possessor extraction may involve a left dislocation-type configuration).

        There are many types of TNP splits crosslinguistically (e.g., German *was für* split). It is beyond the scope of this paper to account for all of them. Rather, I confine my attention to LBE (5) and adjunct extraction (12). Future work will show if the overall picture argued for here can be maintained or appropriately modified when other cases are taken into consideration.

and Magahi, which all lack articles, pattern with SC and Russian, while Spanish, Icelandic, Dutch, German, French, Brazilian Portuguese, Arabic and Basque, which have articles, pattern with English and Bulgarian.[6]

(13) Only languages without articles may allow adjunct extraction out of TNPs.

(14) Iz   kojeg   grada$_i$ je Petar   sreo [djevojke t$_i$]   (SC)

      from which   city is Peter   met   girls

(15) *Ot   koj   grad$_i$ Petko   [sreštna   momičeta t$_i$]?   (Bulgarian, STJEPANOVIĆ 1998)

       from which   city Petko   met   girls

(16) *Frá   hvaða bœg śrð þú   stelpur?   (Icelandic)

      from which city see   you   girls

2.3 D-like items in article-less languages

Traditional D-items do not exhibit the behavior that is associated with D-items in article-less languages. Since the issue will be relevant for the discussion of LBE in section 3 (the items in question undergo LBE, see (22)) I will discuss it briefly with respect to SC.

   Although SC lacks articles, it does have lexical items that correspond to English *that*, *some*, and possessives like *John's*. However, such items in SC behave very differently from the corresponding items in English. Thus, morphologically and syntactically they behave like adjectives (see ZLATIĆ 1997, BOŠKOVIĆ 2008).[7] Like adjectives, they agree with the noun they modify and clearly have the morphology of adjectives (see (17)–(18)), in contrast to English D-items. They also occur in typical adjectival positions like the predicate of a copula (19) and allow stacking up (20).

(17) t*im*   nek*im*   mlad*im*   djevojkama

      those$_{\text{FEM.PL.INST}}$ some$_{\text{FEM.PL.INST}}$ young$_{\text{FEM.PL.INST}}$ girls$_{\text{FEM.PL.INST}}$

(18) t*ih*   nek*ih*   mlad*ih*   djevojaka

      those$_{\text{FEM.GEN.PL}}$ some$_{\text{FEM.GEN.PL}}$ young$_{\text{FEM.GEN.PL}}$ girls$_{\text{FEM.GEN.PL}}$

(19) Ova knjiga   je   moja

      *this book   is   my

(20) ta   moja slika

      *this   my   picture

An interesting quirk of SC possessives is that they cannot be modified by adjectives (21). This follows if adjectives cannot modify adjectives given that SC possessors are actually adjectives.

(21) *bogati   susjedov   konj

      rich   neighbor's   horse

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[6]   That the generalization holds in Spanish is demonstrated in TICIO (2003) (see also FORTMANN 1996 for German); Ticio also provides tests for determining NP adjunct status, which should be run for any potential counterexamples to (13) (thus, Ticio shows that the PP from (12) is actually an argument in Spanish).

[7]   This is, however, not the case regarding semantics, where the elements in question do not exhibit uniform behavior (see below). Note also that the point of the following discussion is to demonstrate that the SC items in question behave differently from their English counterparts; it should become clear during the discussion that we would not necessarily expect that the items in question will exhibit the same behavior in all NP languages or rule out the possibility that in some DP languages some of the items under discussion could exhibit some of the properties of the SC items in question.

Under the adjectival analysis of the items in question it is also not surprising that all these items undergo LBE, just like adjectives. Thus, (22) is acceptable, just like the adjectival LBE example in (6).

(22) Ova/Neka/Jovanova$_i$ je vidio   [t$_i$ kola]

    this/some/John's   is seen   car

The items in question also have some freedom of word order. There is in fact a significant contrast with English here: While adjectives must follow D-items in English, they may precede D-items in SC.

(23) Jovanova skupa   slika   vs   skupa   Jovanova slika

    John's   expensive picture   *expensive John's   picture

(24) bivša   Jovanova kuća   vs   Jovanova bivša   kuća

    *former John's   house   John's   former house

The order of SC adjectives and D-items is, however, not completely free: both adjectives and possessives must follow demonstratives.

(25) ova   skupa   kola/?*skupa ova kola

    this   expensive car

(26) ova Jovanova   slika/?*Jovanova ova slika

    this Jovan's   picture

These ordering restrictions follow straightforwardly from the semantics of the elements in question. Assuming that the semantics for possessives is modificational (see, e.g., PARTEE & BORSCHEV 1998 ([[*John's*]] = λx.[R$_i$(John)(x)] where R$_i$ is a free variable) and LARSON & CHO 1999 ([[to John]] = λx.[POSS(j,x)]) and given the standard assumption that adjectives are also of type <e,t> and the rule of intersective Predicate Modification, compositional semantics does not impose any restrictions on the order of possessives and adjectives. However, the situation is different with demonstratives. Given the standard, Kaplan-style treatment of demonstratives (see KAPLAN 1977), where demonstrative noun phrases pick out an individual of type e, i.e., where a demonstrative like *that* is a function of type <<e,t>,e>, once a demonstrative maps a nominal element to an individual, further modification by predicates of type <e,t> is not possible. Straightforward semantic composition thus allows possessives to be composed either before or after modifying adjectives, while demonstratives must be composed after both adjectives and possessives.[8] This perfectly matches the actual facts regarding the ordering of the elements in question in SC.[9] Below, I will adopt an NP-adjunction analysis for all the items in (23)–(26). The fact that these items are not all freely ordered in SC is not problematic given that the unacceptable orders (and only the unacceptable orders) are anyway filtered out in semantics.[10]

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[8]   I only give here an outline of a semantic account of the ordering restrictions on SC determiners/possessives/ adjectives. Note, however, that the account readily extends to non-restrictive adjectives under MORZYCKI'S (2008) analysis, where non-restrictive adjectives are also treated as having type <e,t> and required to be interpreted inside the determiners.

[9]   English **expensive this car* and **John's this picture* are much worse than the unacceptable SC examples in (25)/(26), which follows if the English examples involve the above semantic violation as well as a syntactic violation, i.e., violations of the requirement that DP be projected on top of the TNP in English and whatever is responsible for the incompatibility of possessives and articles in English. (Note also that the no-DP analysis of article-less languages does not require that all such languages pattern with SC with respect to the ordering restrictions discussed here; see BOŠKOVIĆ in press b and BOŠKOVIĆ & HSIEH 2012 for explanation why adjectives and possessives are allowed to precede demonstratives in Chinese.)

[10]   In BOŠKOVIĆ (2009c) I argue that the order of adjectives with respect to each other also follows from semantic

Particularly strong evidence that SC possessives (more precisely, agreeing prenominal possessives) should be syntactically treated differently from English possessives, which also confirms that, like adjectives more generally, SC possessives are NP adjoined, is provided by certain binding contrasts noted by DESPIĆ (2009, 2011, in press). Consider (27)–(28).[11]

(27) a. Kusturica$_i$'s latest movie really disappointed him$_i$.

b. His$_i$ latest movie really disappointed Kusturica$_i$.

(28) a. *Kusturicin$_i$ najnoviji film   ga$_i$ je zaista razočarao.

Kusturica's   latest   movie him is really disappointed

'Kusturica$_i$'s latest movie really disappointed him$_i$.'

b. * Njegov$_i$ najnoviji film   je zaista razočarao   Kusturicu$_i$.

his   latest   movie   is   really disappointed   Kusturica

'His$_i$ latest movie really disappointed Kusturica$_i$.'

That there is no binding violation in (27) is not surprising under the standard treatment of English possessives, where these elements are located in SpecDP.[12] The ungrammaticality of (27) then provides evidence that this analysis should not be applied to SC. Despić observes that (27) can be straightforwardly accounted for in the general approach outlined above, where DP is missing in SC and SC possessives are treated like adjectives. In particular, following BOŠKOVIĆ'S (2005b) treatment of adjectives, Despić treats SC possessives as NP adjuncts, an analysis that ensures that the possessive in (28) c-commands outside of the subject NP (given the lack of DP), which yields a Binding Condition B violation in (28a) and a Condition C violation in (28b).[13]

DESPIĆ (2009, 2011, in press) also shows that demonstratives and adjectives do not change anything regarding binding relations in SC, as illustrated in (29), which provides very strong evidence that demonstratives, possessives, and adjectives should all be treated as multiple adjuncts of the same phrase. Since demonstratives and adjectives then do not introduce an extra projection, they do not prevent the possessive from c-commanding the co-indexed elements in (29).

(29) a. *[$_{NP}$ Ovaj [$_{NP}$ Kusturicin$_i$ [$_{NP}$ najnoviji   [$_{NP}$ film]]]]   ga$_i$ je zaista razočarao.

this   Kusturica's   latest   movie   him is really disappointed

'This latest movie of Kusturica$_i$ really disappointed him$_i$.'

b. *[$_{NP}$ Ovaj [$_{NP}$ njegov$_i$ [$_{NP}$ najnoviji [$_{NP}$ film   ]]]] je zaista razočarao   Kusturicu$_i$.

this   his   latest   movie   is really disappointed Kusturica

c. *[$_{NP}$ Brojni   [$_{NP}$ Kusturicini$_i$ [$_{NP}$ filmovi]]]   su   ga$_i$ razočarali.

numerous   Kusturica's   movies   are   him   disappointed

'Numerous movies of Kusturica$_i$ really disappointed him$_i$.'

Given this much background regarding the structure of the TNP in SC, we are ready to turn to the

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factors.

[11]   For the full paradigm, not given here, see DESPIĆ (2009, 2011) (I have also simplified Despić's treatment of English).

[12]   More precisely, *Kusturica* in (27a) is standardly taken to be located in SpecDP, and *s* in D.

[13]   Chinese, Japanese, and Turkish behave like SC in the relevant respect (see BOŠKOVIĆ in press a, b, CHENG in preparation, TAKAHASHI 2011, BOŠKOVIĆ and ŞENER 2012), which provides strong evidence for the no-DP analysis of these languages (Takahashi also observes and explains away some counterexamples involving relational nouns in Japanese). Note that it is important that the pronoun in (28)–(29) is not contrastively focused, since contrastive focus affects binding relations (the pronoun in (28a) is actually a clitic, hence cannot be contrastively focused; this, however, weakens the binding violation, since such violations are a bit weaker with clitics).

deduction of the LBE generalization in (7), which will be extended to the generalization in (13).

3. Back to left branch extraction: The phase analysis

In BOŠKOVIĆ (2005b) I gave two deductions of (7).[14] Here, I will focus on the one that is based on CHOMSKY'S (2000, 2001) Phase Impenetrability Condition (PIC), according to which only the Spec of a phase is accessible for phrasal movement outside of the phase, which means that XP movement from phase YP must proceed via SpecYP. On a par with CHOMSKY'S (2000) claim that CP but not IP is a phase, I suggested in BOŠKOVIĆ (2005b) that DP is a phase, but NP isn't.[15] Given the PIC, XP can then move out of DP only if it first moves to SpecDP. This is simply a phase update of the standard assumption which goes back to CINQUE (1980) that movement out of DP must proceed via SpecDP. There are two more ingredients of the analysis of LBE from BOŠKOVIĆ (2005b): the traditional claim that AP is NP-adjoined (see sec. 2.3) and the anti-locality hypothesis (the ban on movement that is too short), which is deducible from independent mechanisms and argued for by many authors (e.g., BOŠKOVIĆ 1994, 1997, SAITO & MURASUGI 1999, ISHII 1999, ABELS 2003, GROHMANN 2003, GROHMANN & HAEGEMAN 2003, TICIO 2003, BOECKX 2005, JEONG 2006).[16] Like most other approaches, the version of anti-locality adopted in BOŠKOVIĆ (2005b) requires Move to cross at least one full phrasal boundary (not just a segment).[17] AP then cannot move to SpecDP in (30a) due to anti-locality (phases are in bold).[18] Given the PIC, it also cannot move directly out of DP (30b). Anti-locality/PIC thus ban AP LBE in English. Note that they do not ban all movement

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[14]   I refer the reader to BOŠKOVIĆ (2005b) for arguments that examples like (6) involve AP subextraction.

[15]   For phases in TNPs, see also GUTIÉRREZ-REXACH AND MALLEN (2001), TICIO (2003), SVENONIUS (2004), MATUSHANSKY (2005), HIRAIWA (2005), COMPTON AND PITTMAN (2007), REINTGES & LIPTAK (2006), DEN DIKKEN (2007), HECK et al (2008), KRAMMER (2009). Matushansky's work is particularly interesting in this context, since she examines how DP fares regarding a number of phasehood tests. The discussion in this paper will be, however, confined to one (probably the least controversial) diagnostic for phasehood, namely, the locality of movement. I merely note here one issue Matushansky raises for the DP-as-a-phase approach. She notes that in many languages adjectives and nouns are case marked, which is a problem for the DP-as-a-phase approach: the complement of D should be inaccessible to a DP external case licensor given the PIC. She also suggests two solutions to this problem: (i) Case spreading inside DP is a result of a concord operation that applies after spell out; (ii) Case licensing is done through case checking, not valuation. A DP then has a case feature, which can spread through DP (there are various options here), even before it undergoes case checking with an outside case licensor. I add here two other possibilities: in PESETSKY & TORREGO'S (2007) system, D with an unvalued case feature can still enter Agree with a DP internal element with an unvalued case feature, which then become instances of the same feature. A result of this is that once D's case feature is valued by a DP external case licensor, all DP internal elements that have undergone Agree with D receive the same case value as D (since these are all instances of the same feature, the PIC should not matter here). Finally, the issue in question does not even arise under BOŠKOVIĆ'S (2007) claim that the PIC constrains Move but not Agree.

[16]   Among other things, anti-locality (the term is due to Kleanthes Grohmann) accounts for the ban on short subject topicalization and zero subject null operator relatives (BOŠKOVIĆ 1994, 1997), the *that*-trace effect (ISHII 1999), the ban on movement of the phase head complement (ABELS 2003), and extraction of arguments out of DPs (GROHMANN 2003a, GROHMANN & HAEGEMAN 2003, GROHMANN & PANAGIOTIDIS 2004, TICIO 2003).

[17]   Following (but slightly modifying) the early approaches to anti-locality from BOŠKOVIĆ (1994, 1997) and SAITO & MURASUGI (1999), which were stated in terms of conditions on chain links, BOŠKOVIĆ (2005b:16) adopts the following definition: Each chain link must be at least of length 1, where a chain link from A to B is of length n if there are n XPs that dominate B but not A.

[18]   Under this analysis, if there were an additional functional projection in the object TNP in (5) the adjective would need to be adjoined to that projection. (One could then in principle allow for the possibility of a mixed DP language that would disallow AP LBE and allow adjunct extraction if the adjunct is still assumed to be NP adjoined (see the discussion of adjunct extraction below). However, English, the only DP language that will be examined in some detail in this paper, whose focus is on NP languages, does not require making such a distinction.) At any rate, following BOŠKOVIĆ (2005b), I will assume here a simple [DP [NP]] structure for English DPs like the one in (5) (for relevant discussion, see also section 5). (Note also that I assume that *all* in *all the students* is adjoined to DP, an analysis argued for extensively in BOŠKOVIĆ 2004, BENMAMOUN 1999 and SPORTICHE 1988, which means that *expensive he saw all the cars* can be ruled out in the same way as (5). The example in question is actually also ruled out independently by the Specificity Condition.)

from DPs: *who do you like [$_{DP}$ t friends of t]* is still allowed.

(30) a. *[$_{DP}$ AP$_i$ [$_{D'}$ D [$_{NP}$ t$_i$ [$_{NP}$…   b. *AP$_i$ [$_{DP}$ [$_{D'}$ D [$_{NP}$ t$_i$ [$_{NP}$…

The impossibility of adjunct extraction out of TNP in English (cf. (12)) can be accounted for in exactly the same way as the impossibility of AP LBE, given that NP adjuncts are also adjoined to NP. Moreover, the PIC/anti-locality problem does not arise in SC, which lacks DP. The phase analysis thus accounts both for the impossibility of AP LBE and adjunct extraction out of English TNPs, as well as the availability of both of these extractions in SC, given the DP/NP parameter.

Another aspect of the above analysis, not noted in BOŠKOVIĆ (2005b), is worth noting. The above account of the ban on adjectival AP LBE in English can be extended to account for the well-known fact that some adverbials resist movement. Consider (31)–(32).[19]

(31) John plays well.

(32) a. *Well, John plays.

  b. *Well$_j$, John [$_{vP}$ (t$_j$) plays$_i$ [$_{VP}$ [$_{VP}$ t$_i$] t$_j$]]

If the adverb in (31) is VP adjoined and *v*P is a phase, we have a straightforward explanation of the unacceptability of (32a); more precisely, (32a) can be accounted for in the same way as (5): given the PIC, movement of the adverb has to proceed via Spec*v*P, which violates anti-locality (see (32b)).

3.1 Phases in NP languages

Above I have summarized BOŠKOVIĆ'S (2005b) account of the generalizations in (7) and (13). On a par with CHOMSKY'S (2000) claim that CP but not IP is a phase, I assumed in BOŠKOVIĆ (2005b) that DP is a phase, but NP isn't. However, I would like to propose here a modification of this aspect of my earlier analysis of LBE, which turns out to have wide-ranging consequences.

Interestingly, SC disallows deep LBE, i.e., LBE out of a complement of a noun (the same holds for Polish, Czech, and Russian; see CORVER 1992 for Polish and Czech). Thus, while the AP can undergo LBE in (33c), it cannot undergo LBE in (33b), where the NP in which it originates functions as a complement of another noun, receiving genitive case from that noun. The same pattern holds with possessors (34), which, as discussed in section 2.3, behave like adjectives in a number of respects.[20]

(33) a. On cijeni   [$_{NP}$ [$_{N'}$ [prijatelje [$_{NP}$ pametnih [$_{NP}$ studenata]]]
      he appreciates   friends$_{ACC}$ smart$_{GEN}$ students$_{GEN}$
      'He appreciates friends of smart students.'

  b. *Pametnih$_i$ on cijeni   [$_{NP}$ [$_{N'}$ [prijatelje [$_{NP}$ t$_i$ [$_{NP}$ studenata]]]
      smart$_{GEN}$ he appreciates   friends$_{ACC}$ students$_{GEN}$

  c. cf. Pametne $_i$ on ċijeni   t$_i$ studente.
   smart$_{ACC}$ he appreciates   students$_{ACC}$

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[19]   Some adverbs of this type do occur wh-fronted. However, such examples have been argued to have a different source from the one considered here; see URIAGERAKA (1988), HEGARTY (1991), LAW (1994), SHAER (1998), and especially STEPANOV (2001).
[20]   Note that nominal complements in SC are standardly assigned genitive by the noun; they do not agree with the noun they modify in case and other features like the prenominal modifiers discussed in section 2.3 do.

(34) a. On je vidio [NP [N' prijatelja [NP njegove [NP majke]]]].

       he is seen   friend$_{ACC}$ his$_{GEN}$ mother$_{GEN}$

       'He saw a friend of his mother.'

    b. *Čije$_i$ je on vidio [NP [N' prijatelja [NP t$_i$ [NP majke]]]]?

       whose$_{GEN}$ is he seen   friend$_{ACC}$ mother$_{GEN}$

       'Whose mother did he see a friend of?'

    c. cf. Čiju$_i$ je on vidio   t$_i$ majku?

        whose$_{ACC}$ is he seen   mother$_{ACC}$

What this shows is that an NP above an NP from which LBE takes place (LBE-ing NP) has exactly the same effect on LBE as a DP above an LBE-ing NP does in English; they both block LBE. In other words, the higher NP in SC (33b) (and (34b)) blocks LBE just like DP blocks LBE in English. Notice now that this parallelism can be easily captured if NP is a phase in NP languages.[21] (33b) can then be accounted for in exactly the same way as (5), with the higher NP blocking LBE for the same reason that DP does it in the English example: The PIC forces movement out of the higher NP to proceed via the Spec of this NP. This step of movement, however, violates anti-locality.

(35) *Pametnih$_i$ on cijeni   [NP t$_i$ [N' [prijatelje [NP t$_i$ [NP studenata]]]

      smart$_{GEN}$ he appreciates   friends$_{ACC}$ students$_{GEN}$
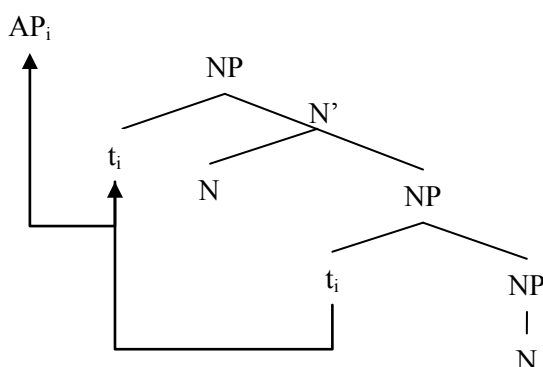
Significantly, we find the same state of affairs with adjunct extraction: deep adjunct extraction is blocked, just like deep LBE, which is not surprising if the two are to be accounted for in the same way, as argued above. The parallelism should in fact be taken as an argument for a uniform analysis.

(36) ?*Iz   kojeg   grada$_i$ je Petar   kupio   slike   [djevojke t$_i$]

      from   which   city   is Peter   bought   pictures$_{ACC}$ girl$_{GEN}$

      'From which city did Peter buy pictures of a girl?'

We have seen that the claim that NP is a phase in article-less languages enables us to account for the impossibility of deep LBE and deep adjunct extraction out of TNPs in SC, a language that otherwise allows such movements. As noted in BOŠKOVIĆ (in press b), strong independent evidence that the proposal that NP is a phase in NP languages is on the right track concerns ABELS's (2003) generalization that the complement of a phase head is immobile. As an illustration, Abels observes that an IP that is dominated by a CP, a phase, cannot undergo movement (37). (Abels shows the VP complement of the *v* phase head is also immobile). As noted by Abels, this follows from an

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interaction of the PIC and anti-locality, with the PIC requiring IP movement through SpecCP (IP$_i$ [$_{CP}$ [$_{C'}$ C t$_i$]] is ruled out by the PIC), and anti-locality blocking such movement because it is too short ([$_{CP}$ IP$_i$ [$_{C'}$ C t$_i$]] is ruled out by anti-locality).[22]

(37) *[His$_j$ father likes Mary]$_i$ everyone$_j$ believes that t$_i$

As noted in Bošković (in press b), if NP is indeed a phase in NP languages, we would expect that an NP complement of a noun cannot undergo movement. This surprising prediction is borne out. Zlatić (1997) shows that genitive complements of nouns indeed cannot be extracted in SC.

(38) a. ?*Ovog studenta$_i$ sam pronašla [knjigu t̨]
          this$_{GEN}$ student$_{GEN}$ am   found   book$_{ACC}$
        'Of this student I found the book.'

     b. *Koga$_i$ si   pronašla [knjigu t̨]
          who$_{GEN}$ are   found   book$_{ACC}$
        'Of whom did you find the book?'   (Zlatić 1997)

The impossibility of deep LBE, deep adjunct extraction, and the immobility of genitive complements of nouns thus all fall into place if NP is a phase in article-less languages. They are ruled out in exactly the same way. The reason why, in contrast to DP languages, NP languages allow LBE and adjunct extraction out of TNPs is then not a difference in the phase status of the TNP, where TNP would not be a phase in NP languages at all (as argued in Bošković 2005b); rather, the difference is that the relevant elements are generated at the edge of the TNP phase in NP languages. On the other hand, they have to move to that position in DP languages, which yields an anti-locality violation. When they are forced to move to the phase edge, as in the case of deep LBE and adjunct extraction, the anti-locality violation resurfaces in NP languages as well. The NP/DP phasal difference between article and article-less languages thus accounts not only for the different behavior of DP and NP languages with respect to LBE and adjunct extraction, but also for the fact that the differences are nullified with deep extraction.

3.2 Structural vs inherent case

The examples discussed above involve genitive complements of nouns. Adnominal genitive is the counterpart of verbal accusative; it is the standard case nouns assign to their complements which then does not need to be specified in the lexicon. I will therefore refer to it as structural case (see section 3.3.1 for independent evidence for the structural case status of SC adnominal genitive). Some verbs in SC assign non-accusative, lexically specified cases to their complements, which are referred to as inherent cases. Nouns behave like verbs in this respect, i.e., some nouns also depart from the standard pattern and assign an inherent, lexically specified case to their complement. Interestingly, in contrast to genitive nominal complements, nominal complements bearing inherent case allow deep LBE.[23]

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[22] From this perspective (see here Matushansky 2005), the impossibility of moving a complement of D, as in (i), can be interpreted as an argument for the phasal status of DP.
   (i) *Books$_i$ he bought [$_{DP}$ some t$_i$]
   German, however, allows such examples, the process in question being referred to as split topicalization. However, it turns out that German split topicalization is not relevant to our current concerns, see Bošković (in press b), who also discusses several different sources for examples like (i) crosslinguistically.
[23] The improvement here is quite remarkable, given that (39) involves extraction from a subject. Also, as noted by Starke (2001), extraction from inherently case-marked phrases is often somewhat degraded in Slavic. This may be responsible for the residual awkwardness of (39a) (and (41)). What is remarkable, however, is that in spite of the interfering factors, (39a-b) are clearly better than (33b)/(34b). (In other words, (39a-b) are otherwise expected to be

(39) a. ?Kakvom$_i$ ga je uplašila pretnja [t$_i$ smrću]?

   what-kind-of him is scared threat death$_{INSTR}$

   'Of what kind of death did a threat scare him?'

   b. Kakvom ga je pretnja smrću uplašila?

Significantly, as ZLATIĆ (1994) notes, nominal complements bearing inherent case can also be extracted.

(40) a. Čime$_i$ ga je [(Jovanova) pretnja ŧ] uplašila?

   what$_{INSTR}$ him is Jovan's threat scared

   'The threat of what (by Jovan) scared him?'

   b. Kome$_i$ je [otpor t$_i$] bio snažan?

   who$_{DAT}$ is resistance been strong

   'Resistance to whom was strong?'

   c. Kome$_i$ je [davanje pomoći t$_i$] bilo korisno?

   who$_{DAT}$ is giving help been useful

   'The giving of help to whom was useful?'   (ZLATIĆ 1994)

Deep adjunct extraction also improves with inherently case-marked NPs.

(41) ?Iz kojeg grada$_i$ ga je uplašila pretnja [djevojkama t$_i$]

   from which city him is scared threat girls

The correlation between the three phenomena, deep LBE, deep adjunct extraction, and extraction of nominal complements, thus still holds.

   We have already seen how the phase analysis accounts for the pattern where deep LBE, deep adjunct extraction, and extraction of a nominal complement are disallowed, as in the case of adnominal genitive. What about inherent case complements, where these extractions are all allowed? One possibility is to assume that inherent case assigning nouns are not phasal heads (for a proposal regarding how this can be implemented and tied to independently motivated phenomena, see BOŠKOVIĆ 2012b). Rather than taking this step, I will pursue here an analysis on which it is not necessary to make a distinction between NPs headed by inherent and genitive case assigning nouns with respect to phasehood; i.e., I will pursue an analysis where they are both phases. I suggest that the difference between the former and the latter is that NPs headed by inherent case assigning nouns have more structure, which enables extraction out of such NPs to obey anti-locality. This additional structure can be located either on top of the inherent case assigning noun, or in its complement, i.e., either (42) or (43), with FP being the additional structure, would do here, provided that on the structure in (43) FP rather than NP counts as the phase (on the structure in (42) FP does not function as a phase). Both *his* and *his death* can move to the Spec of the higher phase, SpecNP in (42) and SpecFP in (43), without violating anti-locality (deep adjunct extraction is also allowed).

(42) [$_{NP}$ threat [$_{FP}$ F [$_{NP}$ his [$_{NP}$ death

(43) [$_{FP}$ F [$_{NP}$ threat [$_{NP}$ his [$_{NP}$ death

There are, however, reasons to prefer (42). First, Despić's test shows that inherently case-marking SC TNPs pattern with genitive case-marking SC TNPs rather than English TNPs regarding c-

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worse than (33b)/(34b).)

command relations. Thus, (44) involves a binding violation. Under (43), it is necessary to assume that the possessive is FP-adjoined (if it were NP-adjoined it would not c-command out of the TNP), which means that possessives would be in different positions in inherently and genitive case-marking NPs, FP-adjoined in the former and NP-adjoined in the latter. Under (42), possessors can have a constant position within TNPs.

(44) *Njeno$_i$ upravljanje   fabrikom   je neviralo   Mariju$_i$

     her   management   factory$_{INSTR}$ is bothered Marija$_{ACC}$

     'Her$_i$ management of the factory bothered Marija$_i$.'

(42) can also be easily tied to the often-invoked intuition that inherent case assignment should be tied to prepositionhood, with a preposition being involved in inherent case assignment. Pursuing this intuition, F can be considered a preposition-like element, something similar to English *of*. Alternatively, we can consider it to be a kind of a linker. Either way, the extra structure involved in inherent case-assignment is more tightly related to inherent case, which motivates its presence, in (42) than in (43) since in (42) the extra structure is present right above the inherently case-marked NP, while in (43) the additional structure is present above the higher noun, which itself can be structurally case-marked. I will therefore adopt (42) with F being a preposition/linker type element ((43) will become relevant below in the discussion of Russian genitive of quantification, a distinct construction which is argued to have a structure that is similar to (43) in the relevant respect).[24] During the discussion below, the reader should, however, bear in mind that I do not assume the linker/preposition-like F projection to be part of the extended projection of NP since its head is not a nominal element (see GRIMSHAW 1990).[25]

3.3. Genitive of quantification

3.3.1. Genitive of quantification in Serbo-Croatian

I now turn to numeral TNPs, a context referred to in the literature as Genitive of Quantification, where the numeral, which is itself a caseless frozen form, assigns genitive case to the following noun.[26]

(45) On kupuje pet   kola

     he   buys   five cars$_{GEN}$

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[24]   Under (42), complement NP movement must strand FP (moving FP to SpecNP would violate anti-locality). A potential issue here is that SC otherwise disallows P-stranding. This is in fact the reason why above I did not consider FP to be a full-blown PP. Anyway, since FP does not have to be considered a full-blown PP (i.e., a PP in every respect), the issue in question does not invalidate the account based on (42). (It should become obvious during section 4.1 that the linker-like element F does not behave like a real preposition with respect to phasehood given that phasehood is what determines P-strandability under the analysis in section 4.1. It is then not surprising that F is strandable; in fact, it might even require stranding, see 3.3.2.2; see also TALIĆ 2012 for an account that does treat FP like a true PP and gets around the P-stranding issue by treating what appears to be F-complement movement differently, namely in terms of extraordinary left-branch extraction (see fn. 29 and 40), with the F head also moving, which voids the phasehood of FP in the BOŠKOVIĆ 2012c system.)

[25]   More precisely, I assume that due to its semantic vacuity (and non-nominal status), FP is simply ignored when calculating extended nominal projections. (The issue actually does not even arise in TALIĆ's 2012 approach from fn. 24.) For expository reasons I will therefore omit FP from the structures during the discussion of extended nominal projections below.

[26]   The reader should not take the discussion of SC numerals to apply to English, since SC numerals behave very differently from English ones. Note also that *jedan* 'one' behaves differently from higher numerals. *Jedan* is an adjective that does not assign genitive but agrees with the noun in case, in contrast to higher numerals, which never decline but assign genitive.

This construction has important consequences for our concerns. What makes it particularly interesting is DESPIĆ's (2009, 2011, in press) observation that this type of numerals bring in additional structure. In contrast to adjectives and demonstratives, genitive assigning numerals confine the c-command domain of possessives, allowing them to co-refer with other elements. (*Mnogo* in (46) also assigns genitive of quantification; for ease of exposition I will refer to the genitive-of-quantification assigning *mnogo* as a numeral.) This follows if the numeral projects a phrase on top of the NP, which I will refer to as QP.

(46) [$_{QP}$ Pet/Mnogo [$_{NP}$ Dejanovih$_i$ [$_{NP}$ prijatelja]]] je došlo na njegovo$_i$ venčanje

       five/many   Dejan's$_{GEN}$ friends$_{GEN}$ is came to his   wedding

   'Many/Five of Dejan's$_i$ friends came to his$_i$ wedding.'

Significantly, deep LBE from under the numeral as well as adjunct extraction and movement of the complement of the numeral are all allowed. (The three phenomena thus again show uniform behavior.)

(47) ?Skupih   kola$_i$ je kupio   mnogo/pet t$_i$.

     expensive cars$_{GEN}$ is bought many/five

(48) Skupih$_i$ je kupio mnogo/pet t$_i$ kola.

(49) ?Iz   kojeg grada$_i$ je sreo pet [djevojaka t$_i$]?

    from   which city   is met five   girls

   'From which city did he meet five girls?'

How can these facts be analyzed? There are two possibilities: either *five* does not head a phase (the no-phase analysis) or there is a phase with numerals but this context involves additional structure so that movement out of the numeral phase does not violate anti-locality (the phase analysis). Choosing between these options has important consequences. Note first that there is a controversy regarding the categorial status of genitive-of-quantification numerals. While most literature considers them to be functional elements (referred to as Qs), ZLATIĆ (1997) considers them to be nominal (i.e., Ns; they in fact used to be clear nouns historically. For numerals-as-nominal-elements analyses, see also CORVER & ZWARTS 2006, HURFORD 1987, 2003, IONIN & MATUSHANSKY 2006, IONIN et al. 2006). Regarding the choice between the phase and the no-phase analysis of numeral constructions, only the former is compatible with Zlatić's treatment of Qs as Ns, on which QP in (46) is actually an NP, hence should count as a phase, given that NP is a phase in SC, as discussed above. Second, the data discussed so far, including the DP/NP difference in the phasehood of the TNP between DP and NP languages, are compatible with an intriguing possibility that the highest phrase in the extended projection of a TNP counts as a phase (see BOŠKOVIĆ in press b). Under this analysis, there is no real variation in phasehood between DP and NP languages; rather, the real source of variation lies in the amount of structure a TNP has in NP and DP languages. The reason why NP is a phase in NP languages is the bareness of TNP structure in NP languages, strong evidence for which is provided by Despić's binding tests. (In other words, while the highest phrase in the TNP in English is DP, in SC it is NP, hence DP functions as a phase in English and NP in SC.) The genitive-of-quantification construction is rather important in this respect, given that in this case we do have evidence for the presence of additional structure in a SC TNP, in fact the evidence comes exactly from those tests that, as discussed in section 2, provide evidence for the bare structure of non-numeral TNPs. If the highest phrase in the extended projection of a TNP counts as a phase, then QP should function as a phase in SC. Under this analysis we then need to find a principled reason for the voiding of phasehood effects with genitive of quantification; we cannot simply assume QPs are not phases. The same holds for Zlatić's treatment of numerals. Notice, however, that under Zlatić's analysis the genitive-of-quantification construction has no relevance for

the highest-projection-as-a-phase hypothesis since under this analysis we are dealing here with two separate NPs, not with one NP with additional functional structure. At any rate, under the phase analysis (this holds for both implementations of this analysis: the highest-phrase-as-a-phase analysis and Zlatić's NP analysis), we need to find a principled reason for the voiding of the usual phasehood effects since we cannot simply stipulate numeral phrases are not phases.

Note now that if genitive of quantification can be treated as an inherent case the issue will be resolved: we will be dealing here with the broader pattern noted above for inherent case assigning Ns, which, as discussed above, can be treated in terms of a phase+additional structure analysis. Significantly, FRANKS (1994) convincingly argues on independent grounds that the genitive assigned by numerals is indeed an inherent case in SC. BABBY (1987), FRANKS (1994) and BOŠKOVIĆ (2006) argue that, in contrast to structural case, which does not have to be assigned, inherent case has to be assigned (see FRANKS 1994, BOŠKOVIĆ 2006 for explanation). As a result, when an inherent and a structural case assigner compete for case assignment to a single noun, the conflict can be resolved by assigning the inherent case and failing to assign the structural case; however, when two inherent case assigners compete the conflict cannot be resolved. (45) represents the former scenario, with *buy* failing to assign its structural case. However, when a higher numeral occurs with a verb assigning inherent case, the result is ungrammatical. Since both the numeral and the verb are inherent case assigners, they both must assign case; this, however, is not possible in (51)–(52) since they compete for case assignment to a single noun.

(50) On pomaže ljudima.

     he helps   people$_{DAT}$

(51) *On pomaže pet ljudima.

      he helps   five   people$_{DAT}$

(52) *On pomaže pet   ljudi.

     he helps   five   people$_{GEN}$

Based on such considerations, FRANKS (1994) argues that SC genitive of quantification is an inherent case. (47)–(49) can then be accounted for in the same way as (39)–(41), with the extra projection linked to inherent case assignment present with numerals, on a par with (42). Nothing then goes wrong regarding the phenomena discussed above if the numeral heads a phase (recall that QP is NP under Zlatić's analysis).

(53) [$_{QP}$ five [$_{FP}$ F [$_{NP}$ expensive [$_{NP}$ cars

In other words, we are simply dealing here with a broader pattern associated with the inherent/structural case difference, genitive of quantification assigning numerals patterning with inherent case assigning nouns because they both assign inherent case.

Note also that FRANKS'S (1994) test for structural/inherent case distinction shows that SC adnominal genitive is indeed a structural case, as assumed above. Thus, just like verbal accusative can be overridden by genitive of quantification, which shows that verbs that normally assign accusative do not have to assign case (in contrast to verbs that assign inherent case), adnominal genitive can be overridden by genitive of quantification. There is a context where adnominal genitive and genitive of quantification differ. With numerals 2–4, the noun gets genitive singular, instead of genitive plural (which is what happens with higher numerals). When these numerals occur with a noun that assigns genitive, the noun in the complement must get genitive singular, as in (54b) (in other words, the noun here gets genitive of quantification, not adnominal genitive). This shows that adnominal genitive does not have to be assigned, which in turn indicates adnominal genitive is a structural case, given that, as discussed above, inherent cases must be assigned.

Furthermore, as in the case of verbs, nouns assigning inherent case cannot occur in the context in question (54c-d). These facts confirm that the genitive/non-genitive case distinction regarding nominal complements indeed involves structural/inherent case distinction.

(54) a. opis   knjiga

            description   book$_\text{GEN.PL}$

      b. opis   tri   knjige

            description   three book$_\text{GEN.SG}$

      c. *pomaganje pet   ljudi

            helping   five   people$_\text{GEN}$

      d. *pomaganje pet   ljudima

            helping   five   people$_\text{DAT}$

To sum up, the genitive-of-quantification construction patterns with the inherent adnominal case construction rather than the adnominal genitive construction with respect to the locality diagnostics used in this paper. Since genitive of quantification is an inherent case, in contrast to adnominal genitive, this state of affairs confirms the relevance of the inherent/structural case distinction for the locality diagnostics employed here. In other words, we are simply dealing here with a broader pattern associated with the inherent/structural case difference, which I have argued has a structural reflex (i.e., it is structurally represented), genitive of quantification assigning numerals patterning with inherent case assigning nouns because they both assign inherent case, in contrast to genitive assigning nouns. Since the genitive-of-quantification construction can be treated like the inherent adnominal case construction, we can keep the implementation of the inherent/structural case distinction from sec 3.2, where inherent case contexts are phase contexts, but phasehood effects are voided due to the presence of additional structure, in line with the general approach where the highest projection within TNP counts as a phase (recall that Zlatić's Q-as-N analysis, where, in contrast to the QP analysis, genitive-of-quantification constructions involve two separate TNPs, also requires adopting the phase analysis).

3.3.2 Phasehood of TNPs: The highest projection is a phase

3.3.2.1 SC Q(N)Ps

We are now ready to examine more closely the two issues raised in section 3.3.1 regarding the phase analysis of numeral constructions. (In what follows, I confine my attention to SC. I discuss English from this perspective in section 3.3.2.2). The first issue (under the QP account, where numerals do not introduce a separate NP) concerns the possibility that the highest phrase in a TNP domain counts as a phase and the second issue concerns the possibility that higher numerals are actually nouns, as in Zlatić's analysis. Focussing on the first issue (and temporarily putting aside Zlatić's analysis), under the highest-phrase-as-a-phase analysis, in simple non-numeral TNPs NP functions as a phase in NP languages because NP is the highest phrase projected. In numeral constructions, then, QP should function as a phase, since QP is the highest projection. However, we have seen above that the phasehood diagnostics from section 3.1 do not work with numeral TNPs because numerals assign an inherent case in SC. It appears then that although all the data examined so far are compatible with the highest-phrase-as-a-phase hypothesis, we cannot conclusively test the hypothesis by examining the phasal status of the highest phrase in SC TNPs by taking advantage of the presence of an additional projection with numeral phrases (see, however, the discussion of Russian genitive of quantification below, which involves a projection on top of QP). We can,

however, test it with respect to lower phrases. If only the highest phrase functions as a phase, NP should not work as a phase in SC when it is dominated by a QP. The QP+the-highest-phrase-is-a-phase analysis then makes a very interesting prediction: in contrast to non-numeral NPs, where NP functions as a phase, in numeral TNPs NP will not function as a phase. On the other hand, under Zlatić's numerals-as-Ns analysis, where the numeral introduces an additional TNP, with the phrase headed by the numeral being an NP, the NP following the numeral should still count as a phase, given that this NP is still the highest projection of its own TNP, the construction involving two separate TNPs on Zlatić's analysis. We now have a way of teasing apart the two analyses in question. More broadly, as noted in BOŠKOVIĆ (in press b), under the QP analysis we have a way of teasing apart a dynamic approach to phases, where what counts as a phase is determined contextually (see BOBALJIK & WURMBRAND 2005, BOŠKOVIĆ 2005b, DEN DIKKEN 2007, GALLEGO & URIAGEREKA 2007a,b, TAKAHASHI 2010, 2011 for various approaches that belong to this line of research), and a rigid, once a phase always a phase approach, where phasehood of a phrase does not depend on the syntactic context in which it occurs (see CHOMSKY 2000, 2001). Under the dynamic phasehood approach, a particular phrase can function as a phase in one, but not in another context; such a situation cannot arise under the rigid phasehood approach, where a phase is always a phase (in all contexts), or never a phase (in any context). So, the options that we are trying to tease apart here have important theoretical consequences.

To be more specific, here is what we are testing. If the highest projection in a TNP counts as a phase (the dynamic approach), NP1 will work as a phase in (56), a representation of a non-numeral construction. However, QP, not NP1, should work as a phase in (55), a representation of a numeral construction, under this approach. On the other hand, if NP is always a phase, either because of Zlatić's Q-as-N analysis, where QP is another NP, or because NPs are always phases (the rigid phasehood approach), NP1 should function as a phase in both (55) and (56). The crucial testing point is the phase status of NP1 in (55). We have already seen that NP1 in (56), a non-numeral structure, functions as a phase. What we need to do now is apply those tests for phasehood to (55), where there is a QP on top of NP1.

(55) [$_{QP}$ [$_{NP1}$ [$_{NP2}$

(56) [$_{NP1}$ [$_{NP2}$

Significantly, complement extraction improves here (see BOŠKOVIĆ in press b). Thus, (57a) is better than (57b), which indicates that NP is not a phase in the QP context, as expected under the highest-phrase-is-a-phase approach.

(57) a. Ovog   studenta$_i$ sam   pronašla   [mnogo/deset knjga t_i]
           this$_{GEN}$ student$_{GEN}$ am   found   many/ten   books$_{GEN}$

      b. *Ovog   studenta$_i$ sam pronašla knjige t_i
           this$_{GEN}$ student$_{GEN}$ am   found   books$_{ACC}$

However, deep left-branch extraction (58) and deep adjunct extraction (59) do not show improvement.

(58)   *Čije$_i$ je on upoznao mnogo [$_{NP}$ [$_{N'}$ prijatelja [$_{NP}$ t_i [$_{NP}$ majke]]]]?
          whose$_{GEN}$ is he met   many   friends$_{GEN}$ mother$_{GEN}$
          'Whose mother did he meet many friends of?'

(59)   ?*Iz   kojeg   grada$_i$ je Petar kupio   mnogo slika   [djevojke t_i]
            from   which   city   is Peter bought many   pictures$_{GEN}$ girl$_{GEN}$
            'From which city did Peter buy many pictures of a girl?'

Our tests are thus giving us conflicting results here. What are we to make of this state of affairs? We could conclude that the results are inconclusive, leaving the issue open. Or we can endorse the results of some of these tests, and assume interfering factors are involved with the others. This is the strategy I will pursue. Since in such situation it seems harder for interfering factors to make acceptable structures which are otherwise expected to be unacceptable than the other way round, I will endorse the results of the complement extraction test, which means that NP is not a phase in the QP context. As discussed above, the difference in the phasal status of NP in the QP and the non-QP context can be captured if the highest phrase in TNP functions as a phase. Since in a QP context the highest phrase is QP rather than NP, NP does not function as a phase in this context even in an NP language like SC. As a result, the complement of *books* can be extracted in (57a), where the NP headed by *books* is not a phase (the QP headed by *many/ten* works as a phase here), in contrast to (57b), where the NP headed by *books* is a phase.

As discussed above, under this analysis, interfering factors must be involved in deep LBE and deep adjunct extraction examples like (58) and (59), which are unacceptable, contrary to what is expected. What could these interfering factors be? I will offer here a tentative suggestion to this effect.[27]

Following the line of research that originated with CHOMSKY & LASNIK (1993) and TAKAHASHI (1994), and revived in BOŠKOVIĆ (2002), BOECKX (2003), CHOMSKY (2008), among others, let us assume that X has to move through potential landing sites while undergoing successive cyclic movement. However, I will adopt here a stronger version of this analysis where the potential landing site is not simply defined in terms of the A/A' distinction, as in CHOMSKY & LASNIK (1993) and TAKAHASHI (1994). Thus, MÜLLER & STERNEFELD (1993) propose a system where adjoined elements move through adjoined positions, and Specs move through Specs. Pursuing the spirit of this line of research but making it even stricter, I assume that elements that start as NP adjuncts must move via NP-adjoined positions. This is not to say that they will not have other landing sites during successive cyclic movement; the claim is that they will not be able to skip NP-adjoined positions. In other words, since the NP-adjoined position is a typical position for such elements, they cannot move out of an NP without adjoining to the NP.

This has significant consequences for movement of possessors and adjectives out of TNPs in SC. Recall that such elements are generated as NP adjuncts. This means they cannot move out of an NP without adjoining to it, i.e., they have to target every NP adjoined position on their way. So, in a structure like (60), where the AP is generated in NP2 and then undergoes movement, the AP has to adjoin to the higher NP (NP1) on its way to a higher position (only the relevant structure is shown).

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[27]   For a very different alternative account, see BOŠKOVIĆ (in preparation), which unifies (58)-(59) with English examples like *What did you see friends of students of.* Like the account in the text, the alternative account in BOŠKOVIĆ (in preparation) forces adjunction to the higher NP in (58-59) but for a very different reason having to with the way extended domains of lexical categories are projected, as a result of which it can be extended to a number of cases for which the account given here is not relevant.

   Note also that the analysis proposed in the main text will not affect inherently case-marked NPs. It should be noted, however, that the status of the relevant extractions with inherently case-marked NPs is not completely clear. While deep LBE and deep adjunct subextraction are somewhat worse with inherently case-marked NPs that are accompanied with numerals than with the corresponding constructions without numerals, such subextraction with inherently case-marked NPs accompanied by numerals is still better than the corresponding subextractions with structurally case-marked NPs that are accompanied with numerals (compare (i) with (59)/(58)). It is not clear how this three-way distinction can be captured. Pending an account, I tentatively reduce it to a two-way distinction by giving more weight to the difference between extraction from inherently case-marked NPs with numerals and structurally case-marked NPs with numerals, a contrast which is anyway sharper. (Nothing in the discussion to follow needs to be changed to accommodate inherently Case-marked NPs then.)

(i)   a.   (?)?Iz   kojeg grada ga   je uplašilo mnogo pretnji [djevojkama t]?
               from which city   him is scared   many   threats girls
               'From which city did many threats scare girls?'
         b.   ??Kakvom   ga   je mnogo pretnji [t smrću] uplašilo?
               what-kind-of him is many   threats   death   scared
               'Of what kind of death did many threats scare him?'

(60) AP_i [$_{QP}$ t_i [$_{NP1}$ t_i [$_{NP1}$ [$_{NP2}$ t_i [$_{NP2}$

But then we have an account of (58) and (59). The AP and the adjunct are generated as adjuncts to the lowest NP. They now have to adjoin to the higher NP during successive cyclic movement. This step of movement, however, violates anti-locality. This is then the reason why (33b)/(34b) and (36) do not improve with an addition of a QP, as in (58) and (59). QP is simply irrelevant. It cannot help here because the violation occurs even before the relevant element reaches QP. Notice also that this account of the ungrammaticality of (58) and (59) does not affect the case of complement extraction (57a). A complement will obviously not be forced to adjoin to NP, given the above discussion.

The above analysis accounts for the contrast between (57a) and (58)/(59), i.e., it accounts both for the improvement (in the QP context) with complement extraction and the lack of improvement with deep LBE and deep adjunct subextraction. The acceptability of complement extraction was interpreted as evidence that NP is not a phase in the QP context, with interfering factors that do not arise with complement extraction being responsible for the unacceptability of deep LBE/adjunct subextraction.

We then have here rather interesting evidence for the phasal status of QP in SC. While we were unable to find direct evidence for its phasehood of the kind discussed above with respect to English DP due to interfering factors, namely the inherent case status of the SC genitive of quantification, we have found indirect evidence for its phasehood by examing the effect that the phrase headed by the numeral has on the phasal status of the NP dominated by the numeral phrase. That the numeral phrase has such an effect provides evidence for the highest-phrase-as-a-phase approach, where addition of a phrase on top of X within the same extended projection can change the phasal status of X. It also provides evidence for the QP treatment of numerals and against Zlatić's Q-as-N analysis, where the numeral phrase should not affect the phasal status of NP since the numeral phrase itself is an NP, which means we are dealing with two separate TNPs in genitive of quantification contexts under the Q-as-N analysis.

In the next section I turn to English. We will see that English provides additional (and stronger) evidence for the highest-phrase-as-a-phase approach. The following discussion of TNP phasehood in English can in fact be interpreted as evidence that the above analysis of SC QPs, where QP but not NP is a phase (in the QP context), is on the right track, given that English TNPs will abstractly receive the same treatment as SC QPs, which will be furthermore shown to have clear empirical motivation.

3.3.2.2 English genitive

Under the analysis we are pursuing the highest projection within a TNP counts as a phase. In an NP language like SC, which lacks DP, NP functions as a phase, except in the case of the higher numeral construction, where there is a QP on top of NP. Here, QP functions as a phase instead of NP. As noted in BOŠKOVIĆ (in press b), this system makes an interesting prediction for English. We have seen DP is a phase in a DP language like English. But what about NP? Is NP also a phase in English? The dynamic, highest-phrase-is-a-phase approach and the rigid, once a phase always a phase approach make different predictions for English. Under the latter, assuming that there is no real crosslinguistic variation regarding phasehood, the only source of variation being the amount of structure within a TNP, given that NP is a phase in SC, NP should also be a phase in English. On the other hand, English and SC should differ in this respect under the dynamic, highest-phrase-is-a-phase approach. We have already seen that NP ceases to be a phase in the rare case when NP is dominated by higher TNP structure in SC. In English, NP is typically dominated by DP. In fact, the most natural interpretation of BOŠKOVIĆ's (2008, in press a) NP/DP analysis is that DP is always projected in English. NP should then never count as a phase in English. The dynamic and the rigid approach thus make different predictions regarding the phasehood of NP in English.

Let us then examine whether NP works as a phase in English, in addition to DP. As discussed above, the LBE test and the adjunct extraction test cannot be conducted in English, such extractions always being banned in English due to the phasal status of DP. We are then left with complement extraction. If the complement of a noun can be moved in English, NP cannot be a phase. If, on the other hand, the complement of a noun cannot undergo movement, the conclusion will be that NP is a phase in English. (If NP is a phase in English, just as in SC, movement of a nominal complement will have to proceed via SpecNP, which will violate anti-locality. Recall that such extraction is indeed unacceptable in SC.)

Let us then consider English *of*-genitive phrases from this perspective.[28] While there is a preference for stranding *of* (see below for a reason for this), there are fully acceptable cases where the whole *of*-complement moves, as in the examples in (61), taken from the literature.

(61) a. Of which city did you witness the destruction?   (Huang 1982, Chomsky 1986b)

   b. Of whom do government employees see pictures every day? (BACH & HORN 1976)

The acceptability of examples like (61) can then be taken to indicate that NP is not a phase in English. There are, however, some interfering factors. It seems that English adnominal genitive should be considered the counterpart of SC adnominal genitive; it is a regular case assigned by nouns that does not need to be specified in the lexicon. This is in contrast to what we find with SC nouns like *pretnja* 'threat'. However, CHOMSKY (1986b) considers English *of*-genitive to be an inherent case. If Chomsky is correct in this conjecture, examples in (61) may be irrelevant, given that even in SC, NP-phasehood effects are voided with inherent case. More precisely, on the inherent case treatment of adnominal genitive in English, the grammaticality of (61) would not necessarily provide evidence that NP is not a phase in English, i.e., it would not tell us anything conclusive about this issue.

There is, however, a scenario where (61) is still relevant. Assume that English adnominal genitive is indeed an inherent case, as CHOMSKY (1986b) proposed. I have argued above that inherent case comes with additional structure, which I simply referred to as FP. The question is then how *of* should be treated in this analysis. A natural move would be to consider *of* the realization of F. I have argued above that in SC FP does not get pied-piped in the cases of nominal complement movement. If there is a more general preference not to separate F from the inherent case assigning noun, which does not seem implausible, we can then account for the preference to strand *of,* which is in some cases quite strong to the point that non-stranding cases sound degraded. (ROSS 1986:123 even noted non-stranding is disallowed in his dialect, though he later gave acceptable examples of this type (p. 148).) At any rate, from this point of view, (61) is relevant to the issue of NP phasehood. If the whole FP is moved in (61), the movement would yield an (anti-)locality violation if the NP here were a phase: the PIC would force the *of*-phrase to move via SpecNP, which would incorrectly yield an anti-locality violation.

To conclude, if English adnominal genitive is a structural case, or if it is an inherent case with *of* being the realization of the F head, (61) provides evidence that NP is not a phase in English.

A scenario where the grammaticality of (61) is irrelevant to the issue under consideration concerns the analysis on which English adnominal genitive is treated as an inherent case, with *of* located in a position lower than F, rather than in F^0. There is actually another option: the N complement in (61) may simply be a PP, headed by *of*. On this analysis, the grammaticality of (61) again becomes relevant: since the examples involve movement of a nominal complement, the NP cannot work as a phase in (61) or the examples would be ruled out as (anti-)locality violations. There is, however, no need to rely on (61), where the categorial status of the extracted complement is not completely clear, to investigate this option. There are other clearer cases of PP nominal complements. Such complements can be moved, as shown in (62), which then provides evidence

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[28]   Since it is not easy to determine the status of the English *of*-genitive with respect to the criteria that are relevant to our concerns, I will discuss below a range of available possibilities (see also KAYNE 2002 for a very different treatment of *of*).

that NP is not a phase in English: if NP were a phase, PP complement movement in (62) would be blocked via the PIC/anti-locality conspiracy.

(62) ?To which problem did you discover (the) solutions?

One issue that arises here is the status of non-*of* PPs. While *of*-phrases seem like good candidates for actual complements it is less clear with other PPs whether they should be treated as adjuncts or complements. Recall, however, that English disallows adjunct extraction from TNPs (due to the phasehood of DP), so the very grammaticality of (62) provides evidence that the PP here is a complement (i.e., an argument rather than an adjunct). It is also worth noting here that Spanish counterparts of English adnominal genitive are extractable (*de qué ciudad presenciaste la destrucción* is the counterpart of (61a), given that some of the interfering issues that arose above regarding English *of* may not be relevant in the case of Spanish *de* phrases.

I then conclude that NP is not a phase in DP languages like English and Spanish, as predicted by the dynamic phasehood approach on which the phase status of a phrase can depend on its syntactic context, the implementation of this approach for the case at hand being that the highest phrase in a TNP counts as a phase. Given that English NP is dominated by DP, NP then does not work as a phase in English, in contrast to NP languages like SC.

Returning now to SC, above I have only discussed extraction of NP complements of nouns. What about PPs? It turns out some phrases that could be treated as PP complements are extractable.

(63) ?Za koji problem si otkrio rješenja?

      to which problem are discovered solutions

      'To which problem did you discover (the) solutions?'

Should the grammaticality of (63) be interpreted as indicating that NP is not a phase in SC? This conclusion would leave the adnominal genitive data discussed above unaccounted for, hence I will not pursue it here. One could try to modify the above conclusion by assuming that only NPs headed by case assigning nominals count as phases (see Bošković 2012b for an account along these lines, based on Takahashi's 2010, 2011 approach to phasehood, where case plays a crucial role in determining phasehood), where the case difference between adnominal genitive and examples like (63) could even have a structural reflex that could be responsible for the phase difference. There is, however, no need to take this step.[29] It is actually not clear that PPs ever function as nominal complements in SC. In other words, it appears that in SC, a language where a noun can take a true NP complement, PPs simply do not function as nominal complements. Rather, they should be treated as adjuncts. Given that adjuncts can be extracted out of TNPs in SC, the grammaticality of (63) by itself is not an impediment to the adjunct treatment of the PP, as it was in English. There is, however, a simple test that can determine the complement/adjunct status of the PP in question, which was in fact used by Ticio (2003) in her discussion of PP extraction from Spanish TNPs. If the TNP in (63) is embedded within an island, we should get a subjacency-strength violation if the relevant phrase is a complement, and an ECP-strength violation if the phrase is an adjunct. It turns out that the violation here is quite strong, on a par with ECP-strength violations, which provides evidence that the PP in question is an adjunct, not an argument (see (64a); another relevant example is given in (64b)).[30] This in fact seems to be quite generally the case in SC, a language which allows

[29]   For an alternative to the account about to be given see Talić (2012), who proposes an analysis where (63) does not raise a problem for the current system even if the PP from (63) is a nominal complement. (Talić treats (63) in terms of extraordinary left-branch extraction (see fn. 40), where the NP complement of P undergoes movement in (63), carrying the P along, which voids the phasehood of PP in the Bošković 2012c system.)
[30]   Ticio conducts this test to show that some PPs that seem treatable as adjuncts but are extractable from TNPs in Spanish, a DP language which should not allow such extraction, are in fact arguments. (In her cases, extraction of the PPs from islands yielded a subjacency-strength violation.) It is worth noting here that, as discussed in Lasnik & Saito

NP nominal complements (in various cases) and where the nominal complement/argument treatment seems to be reserved for NPs. (For relevant discussion, see also STARKE 2001:chapter 5, who (simplifying somewhat) ties traditional argumenthood to NPhood, or, more precisely, being case-marked; notice that English may not differ from SC in the relevant respect if in a case-poor language like English some prepositions count as case-markers, which is not the case in a case-rich language like SC, where prepositions are prepositions.[31])

(64)   a. **Za taj problem si ti zaspao [pošto je Ivan otkrio rješenja t]?

'To that problem, you fell asleep after Ivan had discovered (the) solutions?'

b. **O kojem novinaru si ti zaspao [pošto je Ivan pročitao članak t]?

'About which journalist did you fall asleep after Ivan had read an article?'

To summarize, the claim that NP is a phase in NP languages was situated within a broader theoretical context in this section. We have seen that, in contrast to NP languages like SC, NP is not a phase in DP languages like English. The facts then indicate that DP, but not NP is a phase in English, while NP is a phase in SC. This can be captured if the highest phrase within a TNP functions as a phase in both DP and NP languages, the highest phrase being DP in English and NP in SC (see BOŠKOVIĆ in press b). Additional evidence for this approach was provided by the SC genitive of quantification construction, where a QP is projected above NP even in SC. We have seen that due to the presence of QP, NP ceases to be a phase in SC in this context. In other words, QP voids the phasehood of NP in SC, just like DP voids the phasehood of NP in English. All of this indicates that it is the highest phrase in the traditional NP that functions as a phase, regardless of the categorial status of the TNP in a particular language (or construction). There is then no real crosslinguistic variation regarding phasehood in TNPs, the only variation lies in the amount of structure a TNP has in DP and NP languages. More generally, the above discussion favors a dynamic approach to phasehood, where the phase status of a phrase can be affected by the syntactic context in which it appears, over a rigid, once a phase always a phase approach, where the syntactic context is irrelevant to the phasehood of a phrase. The test case came from NP, whose phasal status is affected by the syntactic context where it occurs in both English and SC. In English, due to the syntactic context in which it occurs (the presence of DP) NP never functions as a phase, while in SC NP sometimes functions as a phase, and sometimes it doesn't, depending again on its syntactic context.[32]

(1992), extraction of PP arguments from islands is a bit more degraded than extraction of NP arguments, though still much better than extraction of adjuncts. In this respect, note that the unacceptability of (64) is quite strong (on a par with extraction of adjuncts out of adjuncts in English, not extraction of NP or PP arguments); it cannot be captured simply by appealing to the additional PP effect, which may even be language specific. In fact, (64) is even worse than (i), which involves a double locality violation (recall that nominal complements in SC cannot be extracted even if the extraction does not take place out of a traditional island), which confirms the adjunct status of the extracted element in (64), given the well-known fact that extractions out of traditional islands yield stronger violations with adjuncts than with arguments.

    (i) *Ovog profesora si zaspao [pošto je Ivan pročitao knjigu t]?
       'This professor, you fell asleep after Ivan had read the book of.'

   It is also worth noting a potential alternative analysis of (64). Following BACH & HORN (1976), the PP in at least (64b) may be directly modifying the verb (*read*), in which case it would not be part of the object NP. Furthermore, if the PP modifies the verb as an adjunct, the strong unacceptability of (64b) also follows.

[31]   The most plausible candidates for PP nominal complements in English are in fact all NPs in SC.

[32]   Although under the dynamic approach the phase status of NP, e.g., depends on its syntactic context, no look-ahead is required to accommodate the variable status of NP regarding phasehood. X can either move to the edge of NP or not; if X does not move to the edge of NP and no additional TNP structure is inserted above NP, which means the first merger is with e.g., a verb, with the verb projecting and turning NP into a phase, X will not be able to move out of the NP. If the structure requires movement of X the structure will simply crash. The problem will not arise if X does move to the edge of NP before merger with the verb. Moreover, under CHOMSKY's (2001) definition of the PIC, X in the complement domain of an NP phase is actually able to move to SpecVP, even SpecNP if the cycle is defined on phases,

3.3.3 Genitive of quantification in Russian

I will now discuss genitive of quantification in Russian, which presents an interesting puzzle for the current system. Russian behaves like SC regarding the paradigm from section 3.1/2: deep LBE, movement of the nominal complement, and deep adjunct extraction are unacceptable in an adnominal genitive context, with improvement in inherent case contexts.[33] Regarding genitive of quantification, a context which I will focus on here because, as discussed below, it appears to raise a problem for the current analysis, Russian again patterns with SC with respect to the basic paradigm from sec 3.2.2 (see also fn. 33). As (65) shows, deep LBE, deep adjunct extraction, and nominal complement extraction are all possible in this context, just as in SC.

(65) a. Dorogix   on kupil pjat'/mnogo mašin.

    expensive$_{GEN}$ he bought five/many   cars$_{GEN}$

    'Five/many expensive cars, he bought.'

  b. Dorogix   mašin on kupil pjat'/mnogo.

    expensive$_{GEN}$ cars$_{GEN}$ he bought five/many

    'Five/many expensive cars, he bought.'

  c. Iz   kakogo goroda on videl [pjat' devušek t]?

    from which city   he saw five girls

As in the case of SC, there are two possibilities here. Either QPs do not function as phases, or QPs function as phases but there is additional structure with QPs which makes it possible for extraction out of a QP not to violate anti-locality. The latter alternative is preferable, since it allows us to maintain the position, which was independently motivated in the previous section, that the highest phrase in the extended projection of NP counts as a phase crosslinguistically, in which case there is

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after the NP merges with the verb since PIC effects kick in only when a higher phase head, in this case *v*, is merged. No look-ahead problem then arises here (see also BOŠKOVIĆ in press b).

[33]   The relevant data are given below (the improvement in inherent case contexts is less clear for some speakers; it is not out of question that some speakers do not have the F projection discussed above in this context):

   (i)   a. Č'ju$_i$ on videl [t$_i$ mat']?
                whose$_{ACC}$ he saw   mother$_{ACC}$
                'Whose mother did he see?'
       b. *Č'ej$_i$ on videl druga   [t$_i$ materi]?
                whose$_{GEN}$ he saw friend$_{ACC}$ mother$_{GEN}$
                'Whose mother did he see a friend of?'
       c. [Iz kakogo goroda]$_i$ ty   vstrechal [devušek t$_i$]?
                from which city   you met   girls$_{ACC}$
       d. *[Iz kakogo goroda]$_i$ ty   vstrechal druzej   [devušek t$_i$]?
                from which city   you met   friends$_{ACC}$ girls$_{GEN}$
       e. ?*Etogo studenta$_i$ ja našël knigu t$_i$.
                this$_{GEN}$ student$_{GEN}$ I found book$_{ACC}$
                'Of this student I found a book.'
       f. ?Etogo studenta$_i$ ja našël [pjat' knig/   mnogo knig   t$_i$]
                this$_{GEN}$ student$_{GEN}$ I found 5   books$_{GEN}$/many books$_{GEN}$
                'Of this student, I found 5 books/many books.'
       g. ?Čem$_i$ vy obsudili upravlenije   t$_i$?
                what$_{INSTR}$ you discussed management$_{ACC}$
                'Of what did you discuss the management?'
       h. ?Kakoj$_i$ vy obsudili upravlenije   [t$_i$ fabrikoj]?
                which$_{INSTR}$ you discussed management$_{ACC}$ factory$_{INSTR}$
                'Of what factory did you discuss the management?'
       i. ??[Iz kakogo goroda]$_i$ ty obsuždal upravlenie$_{ACC}$ [denežnymi potokami t$_i$]?
                from which city   you discussed management   money$_{INSTR}$ currents$_{INSTR}$
                'From which city did you discuss the management of cash flow?'

no real crosslinguistic variation in phasehood—the only variation lies in the amount of structure that TNPs have crosslinguistically, a variation that is also indepedently motivated. We have seen that the QP-as-a-phase analysis can be easily maintained for SC. In fact, there was independent evidence for it since SC genitive of quantification is an inherent case. The lack of locality effects in the genitive of quantification context is then just another illustration of the structural vs inherent case difference, and can be captured in exactly the same way as the lack of locality effects with nouns that assign inherent case. Most importantly, given the above proposal that inherent case involves additional structure, it is not necessary to exempt inherent case assigning heads from phasehood; the lack of locality effects can be captured even if inherent case assigning nouns project phases, just like genitive assigning nouns. QPs can be treated in the same way as the former given independent evidence, provided by FRANKS (1994), that SC genitive of quantification is an inherent case. QPs can then be considered to be phases, in line with the approach where the highest phrase in the extended projection of NP counts as a phase.

At first sight, it appears that Russian should not change the overall picture. Regarding (65), given that Russian otherwise patterns with SC, the obvious step to take would be to treat Russian and SC genitive of quantification in the same way, with QP functioning as a phase. This is, however, not easy to implement given FRANKS's (1994) claim that, in contrast to SC, genitive of quantification in Russian is a structural case. His claim is based on the fact that, in contrast to what we have seen above regarding SC, Russian genitive of quantification does not have to be assigned; it can in fact be overridden by an inherent case of the verb, as shown by (66).

(66) Ivan   pomogaet pjati   devočkam.

      Ivan   helps   five$_{DAT}$ girls$_{DAT}$

Since structural case does not come with additional structure these data may then favor the no-QP phase analysis. The analysis could also be extended to SC. However, we could then no longer assume that the highest phrase in the extended projection of NP counts as a phase and the absence of relevant locality effects with SC genitive of quantification would not then simply fall out from the independently motivated inherent case status of this case in SC. I will therefore explore the possibility of an alternative analysis, on which QPs are phases in both Russian and SC, which will allow us to maintain the highest-phrase-is-a-phase approach. The analysis, however, should not conflict with the indepedently motivated claim by FRANKS (1994) that genitive of quantification is an inherent case in SC, and a structural case in Russian. This means that we cannot handle Russian (65) on a par with SC (47)–(49) since that would entail assuming that Russian genitive of quantification is an inherent case. What is then the factor that voids the usual phasehood locality effects with Russian numerals?

Interestingly, there is independent evidence that Russian and SC genitive of quantification do not work in the same way. Above, I have tacitly assumed that the numeral assigns genitive of quantification in SC (which means that the numeral is the head of QP). In fact, I do not know of any data that would be incompatible with this assumption in SC. Significantly, there is evidence that Russian genitive of quantification is not assigned by the numeral, but by another element below the numeral. As discussed by FRANKS (1994), there is a construction where the noun following the numeral bears genitive, but the numeral itself clearly has a non-genitive case (this situation never arises in SC). This is illustrated in (67), where *po* is a dative case assigner. (For the full *po* paradigm, see FRANKS 1994.)[34]

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[34]   While Russian numerals can bear case, SC numerals are always caseless. Thus, SC *pet* 'five' has only one form, in contrast to Russian *pjat'*, which has different case forms. Russian and SC numerals also differ regarding agreement, which, like the case difference, can be tied to the categorial difference proposed below (the issue is discussed later in this section).

(67) Každyj učenik   polučil   po   pjati   rublej.

     each   student   received   distributor   five$_{DAT}$ rubles$_{GEN}$

     'Each student received five rubles.'

Based on such examples, FRANKS (1994), BAILYN (2004), and BOŠKOVIĆ (2006) argue that in Russian the numeral itself does not assign genitive of quantification, which they argue is assigned by a null head below the numeral. (As discussed in BOŠKOVIĆ 2006, the underlying assumption here is that the same element cannot function as a case assigner and a case assignee, a situation which is otherwise never found (see also STOWELL's 1981 Case Resistance Principle.)) A structure along the lines of (68) can then be applied to Russian genitive of quantification, with the null Q functioning as the genitive assigner.

(68) [$_{XP}$ numeral [$_{QP}$ Q [$_{NP}$ expensive [$_{NP}$ cars

But this structure is very similar to (43). The above discussion of (43) can then be applied to Russian numerals. We can continue to assume that the highest extended projection of a TNP is a phase, which in the case of (68) is the projection marked as XP, whose exact nature I leave open. Movement of the NP complement of Q, deep adjunct extraction, and deep LBE from under Q can still proceed without a violation of anti-locality. Furthermore, the structure in (68) is fully compatible with Franks's claim that Russian genitive of quantification is a structural case and the current claim that no additional structure is present right above a structurally case-marked NP, in contrast to inherently case-marked NPs.

    Another aspect of the current analysis is worth noting here. I have assumed above that while SC numeral phrases are QPs (with the numeral heading the QP), Russian numeral phrases at least can have additional structure on top of QP, which I have referred to as XP, leaving its precise nature open. The difference was tied to the ability of Russian numerals to receive case from a TNP external case assigner, numerals in XP being accessible to an external case assigner. Note now that SC numerals never get case (see fn. 34), while I have argued in BOŠKOVIĆ (2006) that Russian numerals have both cased and caseless forms (see also FRANKS 1994).[35] Taking seriously the connection between additional structure (XP) and accessibility to an outside case assigner would then lead to the conclusion that SC numeral phrases are always QPs while Russian numeral phrases can be either QPs or XPs, where XP dominates QP. Focussing on Russian for a moment, this is precisely what FRANKS (1994) argues for. In particular, Franks argues that Russian numeral phrases can either be QPs or involve an additional phrase on top of QP.[36] Franks's main concern was to account for the optionality of agreement with Russian numerals.

(69) Devjatnadcat'   samolëtov   pereleteli/pereletelo granicu.

     Nineteen   planes$_{GEN}$ flew-across$_{PL/SG}$ border

Franks connected this with the amount of structure present in the numeral phrase: QPs cannot undergo agreement, while the phrase on top of QP (XP in current terms) undergoes agreement. The optionality of agreement was also the main concern of BOŠKOVIĆ (2006). However, in contrast to FRANKS (1994), I argued that what is responsible for the optionality of agreement is not a difference in the categorial status of numeral phrases but case: Russian numerals have both case and caseless

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[35]   Putting aside (67), where genitive of quantification is assigned, it is not clear whether the numeral is caseless or NOM/ACC since these forms would be expected to look exactly the same morphologically, given the Russian case paradigm. In fact, in BOŠKOVIĆ (2006) I argue that the numeral in the genitive of quantification context is ambiguous between a caseless and an ACC/NOM form, the ambiguity being revealed through the optionality of agreement with subject numerals (see the discussion below).

[36]   For Franks this phrase is DP (he simply assumed this option for Russian). Given the above discussion, the phrase should not be DP. The actual label does not really matter here; what matters is the amount of structure projected with Russian numerals.

forms, where case forms undergo agreement and caseless forms do not undergo agreement (see fn. 35). The above suggestion then reconciles FRANKS's (1994) and BOŠKOVIĆ's (2006) proposals. Agreeing and non-agreeing numerals differ both in case properties and the amount of structure, where the two are directly related: XP is needed both for agreement and to make the numeral accessible for external case assignment.

Returning to SC, recall that SC numerals never get case, which I have interpreted as indicating that they are always QPs, with the numeral heading the QP. Significantly, SC numerals also fail to agree.[37]

(70) Devetnaest aviona je   prešlo   granicu/???su   prešli   granicu.

      nineteen   planes is flown-across$_{SG}$ border   are flown-across$_{PL}$ border

Being QPs, SC numeral phrases then can never agree, while Russian numeral phrases optionally agree (since they can be QPs or XPs). The conclusions we have reached here about the structure of numeral phrases in SC/Russian are thus compatible with FRANKS's (1994) system, which means the structures assumed here can be tied to the agreement patterns displayed by SC and Russian numeral phrases.[38]

4. Going beyond clauses and TNPs

I now turn to phrases other than TNPs, applying the above tests to them. As noted in section 1, most of the discussion of phases in the literature concerns clausal-level projections, CP and *v*P. We have seen above that LBE and related constructions can be used as a rather powerful tool for determining the phase status of the TNP. The tests are also applicable to PPs and APs, phrases which are rarely discussed in terms of phases. The tests in question provide evidence for the phasehood of these phrases. I will first consider PP. (I will also briefly discuss VP in section 5; for a much more detailed discussion of VP within the overall approach to phasehood argued for here, see BOŠKOVIĆ in press b.)

4.1 PPs

Before applying the relevant tests, we need to determine whether the case assigned by Ps is structural or inherent. In a case rich language like SC, different prepositions assign different cases. It is generally assumed that prepositional cases are inherent. Surprisingly, FRANKS's (1994) test for

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[37]   As discussed in FRANKS (1994), the plural in (70) is not fully unacceptable due to the possibility of apparently still degraded extragrammatical (semantic) agreement. Franks actually suggests SC numerals project additional structure (XP). However, he then basically stipulates that SC numerals cannot agree, although for him they have the right kind of structure. It seems preferable not to adopt this analysis. If SC numerals are simply QPs it follows they cannot agree and cannot get case from outside case licensors, which are indeed their properties. Franks suggested SC numerals are XPs because he wanted to work in another factor, structural height. He showed that Russian numerals are lower on the non-agreeing option than on the agreeing option and that SC numerals pattern structurally with Russian agreeing numerals. I take this to indicate that agreement should not be correlated with height, given that agreeing numerals in Russian pattern with non-agreeing SC numerals regarding structural height. The current analysis thus correlates case properties of numerals, the amount of structure they have, and their agreement properties, leaving aside the structural position of numeral phrases. However, since the structural position is important for locality effects, I will not try to examine here interactions between locality and agreement.

[38]   It is beyond the scope of this paper to provide a full account of the complex behavior of numerals in SC and Russian. My point here is a modest one, simply to point out the similarity between what I have assumed here and FRANKS's (1994) seminal analysis, which makes it possible to import at least some of the accomplishments of Franks's analysis into the current system.

structural/inherent case distinction reveals that prepositional cases in SC are structural. More precisely, prepositional cases behave like structural cases with respect to genitive of quantification in that they can be overridden by genitive of quantification (see FRANKS 2002). Thus, (71)–(72) pattern with (45) rather than (52).

(71) a. u Londonu/sobi

     in London$_{LOC}$/room$_{LOC}$

   b. u   pet   soba

     in   five   rooms$_{GEN}$

(72) a. prema   Londonu/sobi

     toward   London$_{DAT}$ /room$_{DAT}$

   b. prema pet   soba

     toward five   rooms$_{GEN}$

The conclusion raises all kinds of interesting issues.[39] Putting them aside, since they go well beyond the scope of this paper, let us consider the predictions that the conclusion makes regarding the phenomena examined in this paper. The predictions are clear: Suppose that PP is a phase in SC, which was in fact proposed by ABELS (2003) (see also BOŠKOVIĆ in press b). Given that P assigns structural case, movement of the P-complement, LBE, and adjunct extraction from under P should all be disallowed. It is well-known that SC disallows P-stranding (73). As predicted, LBE and adjunct extraction are also disallowed ((74)/(75)).[40]

(73) *Njoj$_i$ on hoda prema t$_i$.

    her he walks toward

(74) *Veliku$_i$ on uđe   u [t$_i$ sobu].

    big   he entered in   room

(75) *Iz   kojeg grada$_i$ je on hodao   prema [djevojkama t$_i$]?

    from   which city   is he   walked toward   girls

PPs thus confirm the validity of the tests that were used to determine the phase status of TNPs, given that the three diagnostics established in section 3.1 pattern together with PPs, just like they do with TNPs. Furthermore, these diagnostics reveal that PPs are phases in SC.

    I will now briefly consider English. Deep LBE and adjunct extraction are irrelevant for English, since they are ruled out independently in English due to the presence of DP. The preposition stranding test is, however, relevant. It is well-known that, in contrast to SC, English allows P-stranding.

(76)   What are you looking at?

There are two obvious possibilities for accounting for the SC/English difference regarding P-

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[39]   E.g., while all verbs assign the same structural case, prepositions apparently differ in this respect. It may then be necessary to lexically specify which case a particular preposition assigns, which means that lexical specification is not enough to consider a particular case inherent. In fact, the dative assigned by the Russian preposition *po*, discussed in sec. 3.1.3 (see (67)), clearly has to be considered a structural case since it is assigned in an ECM configuration (see section 3.1.3 and especially FRANKS 1994 for a detailed justification of this property of the case assigned by *po*).

[40]   SC allows what in BOŠKOVIĆ (2005b) I called extraordinary LBE, as in *U veliku on uđe sobu* 'In big he entered room'. I refer the reader to BOŠKOVIĆ (2005b) for discussion of this construction, which does not affect the conclusions reached above (for relevant discussion, see also BOŠKOVIĆ 2012c and TALIĆ 2012).

stranding. One possibility is that PPs are not phases in English, which is what ABELS (2003) argues for (but see BOŠKOVIĆ 2004 and TICIO 2003). Under Abels's analysis, languages differ regarding the phasal status of PPs. In PPs-as-phases languages, movement out of a PP must proceed via SpecPP, which in the case of movement of the P complement yields an anti-locality violation, hence the ban on P-stranding in SC. The problem does not arise in English, where PP is not a phase for Abels, hence movement out of a PP does not need to proceed via SpecPP.

Another option, explored in BOŠKOVIĆ (in press b), is that PP is a phase in both SC and English, i.e., both P-stranding and non-P-stranding languages. The relevant difference is then that English PPs have a richer structure than SC PPs (see, e.g., SVENONIUS 2010 for rich PP structure for English), which makes it possible for movement from a PP in English not to violate anti-locality.[41] As noted in BOŠKOVIĆ (in press b), what may be relevant here is ŞENER'S (2006) observation that in Turkish, which normally disallows P-stranding, P-stranding is allowed when there is evidence for a richer structure. Thus, P-stranding is disallowed in (77a), containing a bare preposition, but allowed in (77b), involving a complex preposition which also contains an agreement morpheme.

(77) a. *Biz [NP Pelin-in arkadaş-ı]i dün [PP ti **için**] para topla-dı-k.

we_NOM Pelin_GEN friend_POSS yesterday for money collect_PAST.1PL

'Yesterday, we collected money for Pelin's friend.'

b. Ben araba-nıni dün [PP ti **ön-ün-de**] dur-du-m.

I_NOM car_GEN yesterday in.front.of_3SG.POSS.LOC stand_PAST.1SG

'Yesterday, I stood in front of the car (not behind it).'

ŞENER (2006) applies to (77a) the anti-locality analysis adopted above for SC: Since PP is a phase, P-complement must move to SpecPP, which yields an anti-locality violation (see (78a)). He argues the problem does not arise in (77b) since PP has a richer structure here, as indicated by its morphological make-up. He posits three projections within the PP, as in (78b). Assuming that the highest phrase within the extended PP projection counts as a phase, movement of the complement of the preposition then does not yield an anti-locality violation in this case (see (78b)). The Turkish data under consideration can in fact be interpreted as evidence for this approach.

(78) a. [PP NPi [P' ti]] b. [CplocP NPi [AgrP [PP ti]]]

Based on these considerations, BOŠKOVIĆ (in press b) suggests that English, and P-stranding languages in general, have a richer PP structure than non-P-stranding languages (which does not have to be transparent morphologically the way it is in Turkish), as a result of which the anti-locality problem that arises with P-stranding in languages like SC does not arise in English.[42] This

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[41] This could be tied to a difference in the nature of the case assigned by Ps. If English Ps assign inherent case, as CHOMSKY (1980, 1986b) and HORNSTEIN & WEINBERG (1981) suggested (but see KAYNE 1984), we would expect English PPs to have a richer structure than SC PPs, allowing them to circumvent the ban on P-stranding. Obviously, this is a highly speculative remark since I do not know of any clear evidence for either structural or inherent case status of English prepositional case.

The conclusions reached here about the structure of SC PPs (which follow Abels's bare PP line of research) conflict with the conclusions reached by RADKEVICH (2010), which assigns SC PPs rich internal structure. I leave it open how to reconcile the two (note that the two lines of research are motivated by very different phenomena and theoretical concerns), merely noting that we are dealing here with a tension that is familiar from the CP and the IP domain (compare e.g., CHOMSKY'S 2000, 2001 position that only TP and CP are present above vP with the split IP and split CP analyses; for much interesting discussion (and criticism of the mainstream cartographic approach, which is not adopted in this paper) see ABELS 2009).

[42] Note that, as observed by HORNSTEIN & WEINBERG (1981), a PP complement of P cannot be extracted in English, as in *[Behind which car]i did they take a shot at him from ti (from CINQUE 1990). If the additional structure is case/agreement related it may not be present when a P takes a PP complement. The example is then easily ruled out by the PIC/anti-locality (see BOŠKOVIĆ in press b).

analysis departs from ABELS (2003), who does not assume a structural difference between English and SC. He in fact assumes a bare PP structure for both, placing the relevant point of variation in the domain of phases: PP is a phase in SC, but not English. The above analysis is, however, in line with the overall approach adopted here, which does not posit any crosslinguistic differences with respect to phasehood, the relevant locality differences resulting from structural differences, i.e., the amount of structure languages project witin particular phrases.

At any rate, it is beyond the scope of this paper to account for crosslinguistic variation with respect to P-stranding. What is important for our purposes is that the three diagnostics that were used above in the discussion of the phasal status of TNPs all work in the same way with PPs, which confirms the validity of these diagnostics and provides evidence that PPs are phases in SC.

4.2 Adjectives

I now turn to adjectives. First, the genitive of quantification test indicates that adjectives assign inherent case, given that genitive of quantification cannot override the case assigned by adjectives.

(79) a. lojalan studentima

     loyal   students$_{DAT}$

     'loyal to students'

   b. *lojalan pet   studenata

      loyal   five   students$_{GEN}$

We then make the following predictions: a complement of an adjective should be movable, LBE should be allowed, and adjunct extraction should also be possible. The predictions are all borne out.

(80) ?Studentima$_i$ je on [lojalan t$_i$]

     students   is he loyal

(81) Njegovim$_i$ je on lojalan [t$_i$ studentima]

     his   is he loyal   students

(82) ?Iz kojeg grada$_i$ je on lojalan [studentima t$_i$]

     from which   city   is he loyal   students

Note that the three diagnostics that were used above to investigate the phasehood of TNPs again pattern together; however, while they all fail with PPs, they all work with APs. What does that tell us about the phasal status of APs? The relevant facts can all be accounted for if adjectives are treated just like inherent case assigning nouns, which seems natural given that adjectives also assign inherent case. APs then work as phases; the reason why LBE, adjunct extraction, and complement movement are possible with APs is the richer structure that inherent case is associated with. The alternative would be to assume that APs are not phases; there would then be no reason to expect that the above movements should be blocked with APs. I will adopt here the first option for two reasons: (a) under this analysis all major phrases serve as phases in SC (i.e., NP, PP, and AP; see below for VP), which is a conceptually appealing conclusion since under this approach the thorny question of why some major categories project phases while others do not does not arise (see BOŠKOVIĆ in press b); (b) the option requires adjectives to assign inherent case, which they indeed do; this option

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Note that SUGISAKI (2002) also proposes that languages may differ in the amount of PP structure, tying this difference to P-stranding. However, on his analysis other factors are also involved in the availaibility of P-stranding (more precisely, head movement of P). Also, his analysis of P-stranding is quite different from the analysis adopted above. Sugisaki does not rely on anti-locality and bans A'-movement out of PPs quite generally, P-stranding involving remnant PP movement for him.

then links in a principled way two properties of APs: the behavior of APs with respect to locality and the fact that adjectives assign inherent case. (The reader is also referred to BOŠKOVIĆ in press b for independent evidence based on ellipsis in English that APs project phases.)

5. Conclusion and some theoretical consequences

We have seen that left-branch extraction and related constructions involving extraction out of nominal domains can be used as a very useful test for phasehood. More precisely, we have seen that deep left-branch extraction, deep adjunct extraction, and complement movement pattern together, they are either all allowed or all disallowed with SC TNPs as well as PPs and APs.[43] They are all crucially affected by the structural/inherent case distinction, given that whether they are allowed or disallowed depends on this distinction; more precisely, whether the relevant NP bears inherent or structural case, the phenomena in question being disallowed only with the latter. The general pattern then is that inherent case is less constrained than structural case with respect to extraction out of NPs.[44] Based on this I have argued that the inherent/structural case distinction must be structurally represented. I have also provided a unified phase/anti-locality account of all these facts, where unacceptable extractions are ruled out via a PIC/anti-locality conspiracy because satisfaction of one of these requirements leads to a violation of the other requirement due to the conflicting nature of these requirements at phasal edges (roughly, the PIC requires movement to be short and anti-locality requires it to be long). I have argued that the difference between inherent and structural case is that the former involves additional structure, which enables inherently case-marked NPs to satisfy the PIC without violating anti-locality.

In addition to the inherent/structural case distinction, the current analysis has important consequences for the phasehood of traditional Noun Phrases (TNPs), as well as PPs and APs. I have provided a phase-based account of the ban on left-branch and adjunct extraction from English TNPs that was crucially based on the assumption that DP is a phase. Since (putting aside nominals that assign inherent case) NP has the same blocking effect on these movements in SC as DP does in English, it then follows that NP is a phase in SC. The crosslinguistic variation regarding what counts as a phase in the TNP tracks the independent crosslinguistic variation regarding the categorial status of TNPs, given that TNPs in article-less languages like SC lack DP, as argued in BOŠKOVIĆ (2008, in press a): NP is a phase in NP languages, and DP is a phase in DP languages. The effects of DP phasehood are not observed in NP languages for a trivial reason, given that such

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[43]   There is only one exceptional configuration where they are divorced (for independent reasons), discussed in section 3.3.2.1.

[44]   We may be dealing here with a more general pattern, where inherently case-marked NPs are quite generally less constrained with respect to locality of movement than structurally case-marked NPs. One relevant phenomenon in this respect concerns the scope of Japanese *dake* 'only'. Consider the data in (i-ii). ((i) is taken from TAKAHASHI 2010.)

    (i)   Taro-ga   migime-dake-o   tumur-e-ru.
          Taro$_{NOM}$ right.eye-only$_{ACC}$ close-can-pres
          'Taro can close only his right eye.'   (*only > can, can > only)
    (ii)   Taroo-wa   Daitooryoo-dake-ni   a-e-ru.
          Taro$_{TOP}$ president-only$_{DAT}$ meet-can-pres
          'Taro can meet only with the president.'   (only > can can > only)

While the accusative in (i) must scope under *can*, the dative in (ii) can take wide scope. TAKAHASHI (2010) successfully analyzes the lack of ambiguity in (i) in terms of a locality violation. His basic idea is that to scope over *can*, *dake* NP has to undergo QR (see also BOBALJIK & WURMBRAND 2007). The long QR that is needed to get this reading yields a locality violation in (i) under Takahashi's analysis. Significantly, the violation apparently does not arise in (ii), where the NP bears inherent case and is able to take wide scope. Under Takahashi's analysis of (i) the contrast between (i) and (ii) can be taken as another argument that inherently case-marked NPs are less constrained regarding locality of movement than structurally case-marked NPs (it is beyond the scope of this paper to account for the contrast but see BOŠKOVIĆ 2012b for an account).

languages lack DP. There is then no real variation with respect to phasehood here. With both language types the highest phrase in the TNP domain counts as a phase; it just happens that there is a difference regarding the structure of TNP, i.e., what counts as the highest phrase. In fact, we have seen that when additional structure is present above NP in NP languages, as in the case of numerals, which in SC project QP above NP, this additional structure determines phasehood. Thus, with numerals, QP, which is the highest phrase in the TNP domain when numerals are present, works as a phase (and in Russian, which has an additional projection above QP, this higher projection works as a phase). The real source of variation then concerns the amount of structure TNPs have crosslinguistically, not phasehood of TNPs, since the highest projection in a TNP always counts as a phase.[45] This is in line with the dynamic approach to phases, where the phase status of X can be affected by the syntactic context where X occurs.

I have argued that APs and PPs also function as phases, which means that all major phrases (VP, NP, AP, and PP) project phases, with the exact phasal projection depending on the amount of functional structure above the major phrases (see below for VPs). This state of affairs is conceptually appealing since it eschews the difficult question of why some major categories project phases while others do not—there is nothing to choose or explain here since they all do.

I will conclude by noting an additional consequence of the discussion in this paper. Notice first that due to the presence of vP, which works as a phase, structural case assigning verbs allow movement of their complement: Such movement does not violate anti-locality (see (83)).[46] The same holds for LBE and adjunct extraction out of the V complement (in languages where such extraction is possible).

(83) NP$_i$ [$_{v\text{P}}$ t$_i$ [$_{v'}$ [$_{\text{VP}}$ V t$_i$]]]

This means that there shouldn't be a small n or a small p in TNPs and PPs; otherwise, nominal and prepositional domains would pattern with verbal domains in the relevant respect. This is an important conclusion, in light of the fact that such projections are often posited for TNPs and PPs, mostly to achieve a parallelism with VP. However, we have seen above that the three phrases in question do not display uniform behavior with respect to phenomena that are sensitive to the presence of vP/nP/pP.

Consider what would happen if nP is posited for SC.[47] Since nP is generally posited to obtain parallelism with vP, under this analysis it is natural to assume that nP, rather than NP, should function as a phase in SC (this would anyway be the highest projection within TNP in SC). To allow LBE and adjunct extraction in any context it would then be necessary to assume that APs and adjuncts are nP rather than NP adjoined. (If the latter were the case even simple LBE like (6) and adjunct extraction like (14) would be blocked.) However, if these elements were nP adjoined, deep LBE and deep adjunct extraction would be incorrectly ruled in even where they are unacceptable: the elements undergoing deep LBE and deep adjunct extraction in (33b) and (36) would cross a full phrase, namely the higher NP, on their way to the Spec of the nP that dominates the higher NP (cf. NP$_i$ [$_{n\text{P}}$ t$_i$ [$_{\text{NP}}$ [$_{n\text{P}}$ t$_i$ [$_{n\text{P}}$ [$_{\text{NP}}$), which means that movement to the phasal edge, Spec$n$P under this analysis, would not violate anti-locality.

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[45]   See BOŠKOVIĆ (in press b). The current work considerably strengthens the overall picture since in BOŠKOVIĆ (in press b) this claim was made based only on complement extraction in structural case environments (however, BOŠKOVIĆ in press b does extend the system to ellipsis within TNP based on Japanese, Turkish, and English).

[46]   For extensive discussion of the phase status of the VP domain see BOŠKOVIĆ (in press b), where it is argued that the highest projection in the extended domain of V functions as a phase based on ellipsis in complex modal/auxiliary constructions.

[47]   The discussion also extends to pP. Note, however, that the problems about to be noted arise in SC, but not English. The following discussion then does not completely rule out the possibility that an nP (or a pP) could be posited in English, but not SC, perhaps as part of a more general difference in the structural richness of the TNP between article and article-less languages in the case of nP (note that Sugisaki 2002 argues that languages may differ regarding the presence/absence of pP).

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